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Water Resources Data California Water Year 1997

Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-97-4
Prepared in cooperation with the California Department of Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1997

1996

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1997

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Water Resources Data California Water Year 1997

Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

by G.L. Rockwell, M.F. Friebel, M.D. Webster, and S.W. Anderson

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-97-4
Prepared in cooperation with the California Department of Water Resources and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

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1998

PREFACE

This volume of the annual hydrologic data report of California is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and water quality provide the hydrologic information needed by Federal, State, and local agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for California are contained in four volumes:

Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin and Pacific Slope Basins from the Tijuana River to Santa Maria River

Volume 2. Pacific Slope Basins from Arroyo Grande to Oregon State Line except Central Valley

Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River

Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policy and established guidelines, the individuals contributing significantly to the collection, processing, and tabulation of the data are given on page V.

This report was prepared in cooperation with the California Department of Water Resources and with other agencies, under the general supervision of Michael V. Shulters, District Chief, California.

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	July 1998	Annual—Oct. 1, 1996, to Sept. 30, 1997

4. TITLE AND SUBTITLE
Water Resources Data—California, Water Year 1997. Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

5. FUNDING NUMBERS

6. AUTHOR(S)
G.L. Rockwell, M.F. Friebel, M.D. Webster, and S.W. Anderson

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Geological Survey, Water Resources Division, California District
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8. PERFORMING ORGANIZATION REPORT NUMBER
USGS-WDR-CA-97-4

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Geological Survey, Water Resources Division, California District
Placer Hall, Suite 2012
6000 J Street
Sacramento, CA 95819-6129

10. SPONSORING / MONITORING AGENCY REPORT NUMBER
USGS-WDR-CA-97-4

11. SUPPLEMENTARY NOTES
Prepare in cooperation with the California Department of Water Resources and with other agencies.

12a. DISTRIBUTION / AVAILABILITY STATEMENT
No restriction on distribution. This report may be purchased from the National Technical Information Service, Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

Water-resources data for the 1997 water year for California consist of records of stage, discharge, and water quality of streams, stage and contents in lakes and reservoirs, and water levels and water quality in wells. Volume 4 contains discharge records for 176 gaging stations and 1 partial-record station, stage and contents for 45 lakes and reservoirs, gage-height records for 3 stations, precipitation data for 3 stations, and water quality data for 14 stations and 6 water-quality partial-record stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.

14. SUBJECT TERMS
*California, *Hydrologic data, * Surface water, *Water quality, Flow rate, Sampling sites, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Water analyses

15. NUMBER OF PAGES
476

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

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[Letters after station name designate type of data: (d), discharge; (l), elevation, gage heights, or contents; (g), gage height; (c), chemical; (b), biological; (p), precipitation; (t), water temperature; and (s), sediment]

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South Fork Long Canyon Creek Diversion Tunnel near Volcanoville (d)	11433060	348
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Middle Fork American River near Foresthill (d)	11433300	353
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Pyramid Creek at Twin Bridges (d)	11435100	356
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Silver Lake Outlet near Kirkwood (d)	11436000	359
Caples Lake near Kirkwood (l)	11436950	361
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South Fork American River near Kyburz (d)	11439500	364
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North Fork Cache Creek near Clearlake Oaks (dp)	11451300	427
Cache Creek at Rumsey (cs)	11451800	428
Cache Creek at Yolo (d)	11452500	432
Yolo Bypass near Woodland (d)	11453000	434
Yolo Bypass at Interstate Highway 80, near West Sacramento (cs)	11453120	435
Lake Berryessa near Winters (l)	11453900	437
Putah Creek near Winters (d)	11454000	438
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DISCONTINUED GAGING STATIONS

The following continuous record streamflow stations in California have been discontinued or converted to partial-record stations. Daily records were collected and are stored in NWIS for the period of record shown for each station.

Station No.	Station name	Drainage area (mi^2)	Period of record
10354000	Long Valley Creek near Scotts	125	1917, 1919, 1989-94
10354700	Mill Creek at Milford	2.26	1963-69
10355000	Baxter Creek near Janesville	19.6	1913-16, 1918-19
10355500	Schloss Creek at Janesville	1.05	1915, 1918-19
10356500	Susan River at Susanville	184	1900-05, 1913, 1917-21, 1951-94
10357000	Gold Run Creek near Susanville	15.1	1915-16
10358470	Willow Creek Tributary near Susanville	3.08	1966-71
10358500	Willow Creek near Susanville	90.4	1951-94
10359100	Shaffer Creek near Litchfield	5.63	1970-73
10359250	Pine Creek near Westwood	24.8	1951-61
10359300	Pine Creek near Susanville	226	1961-66, 1968, 1970-82
10359350	Eagle Lake Tributary near Susanville	.91	1963-65
10360230	Eagle Creek at Eagleville	6.36	1962-64, 1966-68, 1970
10360900	Bidwell Creek below Mill Creek, near Fort Bidwell	25.6	1961-82
10361000	Bidwell Creek at Fort Bidwell	--	1912, 1918-19
11341400	Sacramento River near Mount Shasta	135	1960-87
11341500	Sacramento River at Castella	256	1911-17, 1920-23
11342500	Sacramento River at Antler	460	1911, 1920-41
11343000	Parker Creek near Alturas	80.9	1931
11343500	North Fork Pit River near Alturas	203	1930-32, 1958-67
11344000	North Fork Pit River at Alturas	212	1929-31, 1972-85
11344500	South Fork Pit River at Jess Valley	100	1929-31
11346000	Crooks Canyon Creek near Likely	33.8	1929-31
11346500	Fitzhugh Creek near Alturas	36.7	1930-31
11347500	Pine Creek near Alturas	23.5	1919-31
11348000	Pit River at Alturas	857	1929-31
11348200	Pit River near Alturas	1,080	1966-71
11349000	Pit River near Lookout	1,585	1929-31, 1958-71, 1978-80
11349500	Ash Creek at Ash Valley	136	1929-31
11350500	Ash Creek at Adin	258	1904-06, 1929-33, 1958-70, 1972-82
11351000	Willow Creek near Adin	--	1930-31
11351500	Widow Valley Creek near Lookout	27.7	1930-31
11352000	Pit River near Bieber	2,475	1904-08, 1922-26, 1929-31, 1952-70, 1972-75
11352500	Horse Creek at Little Valley, near Pittville	237	1929-31, 1960-67
11352900	Beaver Creek near Hat Creek	23.2	1970-73
11353500	Bear Creek near Dana	84	1921-26
11353600	Dry Creek near Dana	6.46	1967-70
11353700	Fall River near Dana	123	1959-67
11354500	Fall River at Fall River Mills	--	1912-13, 1922
11355000	Pit River at Fall River Mills	3,651	1921-51, 1981
11355500	Hat Creek near Hat Creek	162	1926-29, 1930-94
11356500	Hat Creek at Hawkins Ranch, near Hat Creek	190	1912-13
11357000	Hat Creek at Wilcox Ranch, near Cassel	193	1922
11358000	Lost Creek near Bald Mountain	7.51	1930
11358500	Rising River near Cassel	22.2	1912-13, 1921-22
11359500	Hat Creek at Carbon	364	1922
11360000	Burney Creek above Burney	60.1	1922
11360500	Burney Creek at Park Avenue, near Burney	94.6	1912-13, 1921-22, 1958-64, 1966-75, 1977-80
11363500	Kosk Creek near Henderson	54.8	1911-13, 1915-16
11364000	Pit River above Hatchet Creek	4,819	1926-37
11365500	Squaw Creek above Shasta Lake	64	1945-66
11366000	Squaw Creek at Ydalpom	99.5	1912-13
11366500	Pit River near Ydalpom	5,030	1911-43
11367000	Mud Creek near McCloud	--	1927-32

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11367200	McCloud River below Big Springs, near McCloud	322	1956-59
11367300	Angel Creek near McCloud	17.1	1955-59
11367700	McCloud River above Panther Creek, near McCloud	401	1955-59
11368500	McCloud River near Gregory	633	1903-08
11369000	McCloud River at Baird	673	1911-43
11369500	Sacramento River at Kennett	6,355	1926-42
11371000	Clear Creek at French Gulch	115	1950-93
11371500	Clear Creek near Shasta	172	1912-13
11372050	Churn Creek near Redding	9.35	1961-66
11372060	Churn Creek below Newton Creek, near Redding	11.9	1966-72
11372200	South Cow Creek near Millville	77.3	1957-72
11372700	Clover Creek near Oak Run	19	1957-59
11373200	Oak Run Creek near Oak Run	11.0	1957-66
11373300	Little Cow Creek near Ingot	60.8	1958-65
11374060	Shingle Creek near Shingletown	3.25	1964-67
11374100	Bear Creek near Millville	75.7	1960-67
11374400	Middle Fork Cottonwood Creek near Ono	244	1957-75
11375500	North Fork Cottonwood Creek at Ono	58.8	1908-13
11375700	North Fork Cottonwood Creek near Igo	88.7	1957-80
11375810	Cottonwood Creek near Olinda	395	1971-86
11375815	Cottonwood Creek above South Fork, near Cottonwood	478	1982-85
11375820	South Fork Cottonwood Creek near Cottonwood	217	1963-78
11375870	South Fork Cottonwood Creek near Olinda	371	1977-86
11375900	South Fork Cottonwood Creek at Evergreen Road, near Cottonwood	397	1982-85
11376038	Manzanita Creek at park boundary, near Manzanita Lake	11.6	1979-81
11376450	Coleman Canal above Coleman Forebay, near Cottonwood	--	1979-85
11376490	Battle Creek above Coleman Powerhouse, near Cottonwood	355	1979
11376500	Battle Creek near Cottonwood	356	1941-61
11377200	Sacramento River at Bend Bridge	8,900	1968-70
11377500	Paynes Creek near Red Bluff	92.8	1950-66
11378500	Sacramento River at Red Bluff	9,077	1957-66
11378800	Red Bank Creek near Red Bluff	89.6	1960-82
11378860	Red Bank Creek at Rawson Road Bridge, near Red Bluff	109	1965-67
11379000	Antelope Creek near Red Bluff	123	1941-82
11380000	Elder Creek near Henleyville	130	1931-41
11380500	Elder Creek at Gerber	136	1941-69, 1977-79
11381000	Mill Creek near Mineral	21.2	1929-32
11381595	Mill Creek at Sherwood Bridge, near Los Molinos	13.3	1977-78
11381990	Thomes Creek tributary at Paskenta	.65	1968-70
11382000	Thomes Creek at Paskenta	203	1921-97
11382090	Thomes Creek at Rawson Road Bridge, near Richfield	28.4	1978-80
11382500	Deer Creek at Deer Creek Meadows	50.5	1929-32
11382550	Deer Creek below Slate Creek, near Deer Creek Meadows	69.4	1961-70
11383000	Deer Creek at Polk Springs	134	1929-31
11383600	Deer Creek at Red Bridge, near Vina	210	1977
11383730	Sacramento River at Vina Bridge, near Corning	--	1945-78, 1980
11383800	Sacramento River near Hamilton City	10,833	1945-80
11384000	Big Chico Creek near Chico	72.4	1931-86
11384340	Mud Creek at Cohasset Road, near Chico	21.9	1968-69
11384350	Mud Creek near Chico	48.9	1966-74
11384500	Stony Creek near Stonyford	102	1914-15, 1919-34
11384600	Little Stony Creek above East Park Reservoir, near Lodoga	45.6	1967-82
11385000	Little Stony Creek near Lodoga	98.2	1909-34
11385500	Stony Creek above Stony Gorge Reservoir	281	1934-41
11386500	Grindstone Creek near Elk Creek	157	1936-37, 1940, 1966-72
11387000	Stony Creek near Fruto	597	1901-12, 1961-78
11387200	Stony Creek above Black Butte Lake, near Orland	623	1909, 1981-83
11387500	Stony Creek near Orland	635	1920-34
11387800	North Fork Stony Creek near Newville	63.4	1963-73
11387990	South Diverson Canal near Orland	--	1955-90
11388000	Stony Creek below Black Butte Dam, near Orland	738	1955-90
11388500	Stony Creek near Hamilton City	773	1941-73
11389000	Sacramento River at Butte City	12,080	1921-97
11389700	Butte Creek at Butte Meadows	44.4	1960-74
11389950	Little Butte Creek at Magalia	11.4	1969-85

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11390200	Gold Run Creek Tributary near Nelson	1.31	1961
11390210	Cherokee Canal near Nelson	--	1970-74
11390655	South Fork Willow Creek near Fruto	38.9	1963-78
11390660	Walker Creek at Artois	60.4	1965-81
11390672	Stone Corral Creek near Sites	38.2	1958-64, 1966-85
11390890	Colusa Basin Drain at Road 99E, near Knights Landing	--	1996
11391000	Sacramento River at Knights Landing	14,535	1941-80
11391100	Sacramento Slough near Knights Landing	--	1996
11391400	Little Last Chance Creek below Frenchman Dam, near Chilcoot	81.1	1959-80
11391460	Berry Creek near Sattley	7.54	1973-81
11391500	Big Grizzly Creek at Grizzly Valley Dam, near Portola	44	1926-32, 1951-53, 1955-67, 1969-80
11392100	Middle Fork Feather River near Portola	586	1969-76, 1978-80
11392500	Middle Fork Feather River near Clio	686	1926-79
11393000	Middle Fork Feather River at Sloat	775	1911-27
11393500	Middle Fork Feather River below Sloat	819	1941-62
11394000	Middle Fork Feather River near Nelson Point	883	1924-32
11394500	Middle Fork Feather River near Merrimac	1,062	1952-86
11394620	Fall River near Feather Falls	9.89	1963-79
11394800	South Fork Feather River above Little Grass Valley Reservoir	8.09	1961-79
11395300	Lost Creek above Sly Creek Reservoir, near Strawberry Valley	14.1	1961-70
11396300	South Fork Feather River near Forbestown	105	1958-61
11396350	South Fork Feather River at Ponderosa Dam	108	1962-87, 1990
11396400	Sucker Run near Forbestown	18.7	1965-87
11396500	Palmero Canal at Enterprise	--	1912-65
11397000	South Fork Feather River at Enterprise	132	1912-66
11397500	Feather River at Bidwell Bar	1,341	1912-64
11400000	Butt Creek above Almanor-Butt Creek Tunnel, near Prattville	69.0	1937-64
11401000	Butt Creek at Butt Valley	81.3	1905-21
11401100	Butt Creek near Caribou	85.5	1970, 1976-81
11401125	Indian Creek near Boulder Creek Guard Station, near Taylorsville	68.6	1966-80
11401150	Red Clover Creek near Genesee	122	1959-65
11401180	Little Grizzly Creek near Genesee	29.6	1964-79
11401200	Indian Creek near Taylorsville	526	1958-73, 1975-76, 1979-80
11401300	Lights Creek near Taylorsville	57.6	1958-62
11401500	Indian Creek near Crescent Mills	739	1906-09, 1911-18, 1930-93
11401900	Spanish Creek near Quincy	69.1	1959-63
11401940	Mill Creek near Quincy	6.72	1966-71
11402500	Spanish Creek at Keddie	194	1912-33
11403000	East Branch of North Fork Feather River near Rich Bar	1,025	1951-61, 1968-82
11403510	Bucks Creek Tunnel inlet near Storrie	--	1970, 1976
11404000	Grizzly Creek near Storrie	5.20	1930-44
11404100	Bucks Creek Tunnel Outlet near Storrie	--	1986-94
11405000	North Fork Feather River at Big Bend	1,965	1905-11
11405300	West Branch Feather River near Paradise	--	1958-86
11405500	Spring Valley Diversion near Yankee Hill	--	1926-52
11406000	Concow Creek near Yankee Hill	15.1	1928-30, 1932-52
11406500	West Branch Feather River near Yankee Hill	146	1931-63
11407300	North Honcut Creek near Bangor	47.1	1961-81
11407500	South Honcut Creek near Bangor	30.6	1951-86
11407700	Feather River at Yuba City	3,974	1965-84
11407810	Middle Yuba River at Jackson Meadows Dam, near Sierra City	37.6	1989-94
11407900	Middle Yuba River below Jackson Meadows Dam, near Sierra City	38.3	1965-87
11408500	Middle Yuba River at Milton	39.8	1926-34, 1935-64
11408700	Middle Yuba River near Alleghany	96.6	1958-66
11408850	Middle Yuba River near Camptonville	136	1967-89
11409000	Middle Yuba River above Oregon Creek, near North San Juan	162	1941-69
11409500	Oregon Creek near North San Juan	34.4	1912-69
11410000	Middle Yuba River below Oregon Creek, near North San Juan	198	1912-41
11410400	Haypress Creek near Sierra City	18.2	1961-66
11410500	North Yuba River near Sierra City	94.7	1924-44
11411000	Downie River at Downieville	72.7	1911-26
11411500	North Yuba River at Goodyears Bar	221	1911-31
11412000	Rock Creek at Goodyears Bar	8.98	1911-33

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11412500	Goodyears Creek at Goodyears Bar	12.9	1911-33
11413100	North Yuba River above Slate Creek, near Strawberry Valley	351	1968-87
11413500	North Yuba River below Bullards Bar Dam	487	1941-66
11413600	Sweetland Creek near North San Juan	2.68	1969-73
11413900	Upper Castle Creek at Soda Springs	3.96	1958-63
11413950	South Yuba River Tributary near Soda Springs	.92	1972-73
11414000	South Yuba River near Cisco	51.8	1942-94
11414190	Drum Canal above Drum Forebay, near Blue Canyon	--	1964-91
11414500	Canyon Creek above Jackson Creek	16.6	1926-30
11415000	Jackson Creek at Mouth	5.45	1926-30
11417000	South Yuba River near Washington	198	1942-53, 1957-72
11417100	Poorman Creek near Washington	23.1	1961-71
11419000	Yuba River at Smartville	1,200	1904-41
11420000	Dry Creek near Brownsville	20.4	1949-60
11420500	Dry Creek at Virginia Ranch	71.3	1949-61
11420700	Dry Creek near Browns Valley	87.1	1964-80
11421500	Yuba River at Marysville	1,344	1944-57
11421700	Feather River below Shanghai Bend, near Olivehurst	5,334	1970-80
11421720	Boardman Canal near Emigrant Gap	--	1965-86
11421730	Bear River below Boardman Diversion Dam, near Emigrant Gap	4.01	1979-85
11423000	Bear River near Auburn	140	1941-67
11423500	Bear River at Van Trent	265	1905-27
11424500	Dry Creek near Wheatland	99.9	1947-62
11424600	Wellman Creek near Smartville	.59	1968-73
11425000	Feather River at Nicolaus	5,921	1942, 1944-83, 1985
11426110	Onion Creek Tributary No. 3 near Soda Springs	.65	1959-64, 1966-67
11426120	Onion Creek Tributary No. 5A near Soda Springs	.39	1959-64, 1966
11426130	Onion Creek Tributary No. 2 near Soda Springs	.48	1958-64, 1966-67
11426140	Onion Creek Tributary No. 1 near Soda Springs	.19	1958-64, 1966-67
11426150	Onion Creek near Soda Springs	3.58	1960-79
11426160	Onion Creek Tributary No. 7 near Soda Springs	.80	1959-64
11426200	North Fork Forbes Creek near Dutch Flat	1.68	1956-85
11426400	North Shirttail Creek near Dutch Flat	9.10	1957-85
11426500	North Fork American River near Colfax	308	1912-41
11428000	Rubicon River at Rubicon Springs, near Meeks Bay	31.4	1910-13, 1957-86
11429000	South Fork Rubicon River at sawmill, near Quintette	16.1	1910-14
11429800	Robbs Peak Tunnel near Riverton	--	1963-67
11430500	South Fork Rubicon River at Mouth, near Georgetown	56.9	1956-62
11431000	Rubicon River near Georgetown	195	1910-14, 1944-65
11431500	Georgetown Divide Ditch above Pilot Creek, near Georgetown	--	1951-62
11432000	Georgetown Divide Ditch near Georgetown	--	1947-60
11432500	Pilot Creek near Georgetown	15.1	1946-60
11433100	Long Canyon Creek near French Meadows	18.0	1960-92
11433200	Rubicon River near Foresthill	315	1959-84
11433260	North Fork of Middle Fork American River near Foresthill	88.9	1965-85
11433400	Canyon Creek near Georgetown	12.7	1966-79
11433420	Maine Bar Canyon Creek near Greenwood	.75	1973-86
11433500	Middle Fork American River near Auburn	614	1912-86
11433800	North Fork American River below Auburn Damsite, near Auburn	973	1972-86
11434000	North Fork American River at Rattlesnake Bridge	996	1931-37, 1939-55
11435000	Pyramid Creek near Phillips	3.73	1961-64, 1966-70
11435500	South Fork American River at Kyburz	73.2	1924
11437000	Caples Lake Outlet near Kirkwood	13.5	1922-92
11438000	Silver Fork of South Fork American River near Kyburz	107	1925-44
11439950	Alder Creek Pipeline Diversion near Whitehall	--	1976-82
11440000	Alder Creek near Whitehall	22.1	1923-81
11440500	Plum Creek near Riverton	7.32	1923-39
11440850	Picket Pen Creek near Kyburz	.49	1964-68
11441000	Silver Creek at Union Valley	83.0	1925-60
11442000	Silver Creek near Placerville	177	1922-61
11442500	South Fork American River below Silver Creek, near Pollock Pines	449	1923, 1970-93
11443000	American River Flume near Camino	--	1923-57
11445000	South Fork American River at Coloma	631	1930-41
11445500	South Fork American River near Lotus	673	1951-95
11446000	Weber Creek near Salmon Falls	97.6	1943-59

DISCONTINUED GAGING STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Period of record
11447000	American River at Sacramento	1,936	1944-59
11447030	Strong Ranch Slough at Sacramento	5.02	1972-75
11447300	Dry Creek Tributary near Roseville	.39	1964-67
11447330	Magpie Creek near Del Paso Heights	2.03	1996-97
11447500	Sacramento River at Sacramento	23,502	1904-05, 1921 1949-79, 1986-96
11448500	Adobe Creek near Kelseyville	6.36	1955-78
11448900	Highland Creek above Highland Creek Dam	11.9	1963-78
11449000	Highland Creek near Kelseyville	12.6	1955-62
11449010	Highland Creek below Highland Creek Dam, near Kelseyville	14.2	1966-77
11449100	Scotts Creek near Lakeport	55.2	1961-80
11449350	Burns Valley Creek near Clearlake Highlands	4.37	1963-69
11449450	Copsey Creek near Lower Lake	13.2	1961-68
11449460	Seigler Creek at Lower Lake	12.5	1966-73
11450500	Cache Creek at Lower Lake	488	1901-15
11451500	North Fork Cache Creek near Lower Lake	197	1931-81
11451700	Bear Creek Tributary near Wilbur Springs	4.49	1962-63
11451720	Bear Creek near Rumsey	100	1959-80
11451760	Cache Creek above Rumsey	955	1961-62, 1965-73, 1976-82, 1984-86
11451950	Cache Creek near Brooks	1,041	1983-86
11452000	Cache Creek near Capay	1,044	1943-77
11453170	Dry Creek above Appletree Creek, near Middletown	.83	1978
11453200	Dry Creek near Middletown	8.35	1960-72, 1979-80
11453500	Putah Creek near Guenoc	113	1905-06, 1931-76
11453550	Hunting Creek near Knoxville	37.8	1969-76
11453570	Adams Creek near Knoxville	7.42	1970-76
11453580	Nevada Creek near Knoxville	7.06	1969-76
11453600	Pope Creek near Pope Valley	78.3	1961-80
11453700	Capell Creek Tributary near Wooden Valley	.87	1962-65
11454100	Pleasants Creek near Winters	15.9	1960-68
11454500	Putah Creek at Winters	635	1906-31
11455000	Putah Creek near Davis	638	1949-63

DISCONTINUED LAKES AND RESERVOIRS

The following continuous-record lake stations in California have been discontinued. Daily records were collected and are stored in NWIS for the period of record shown for each location.

Station No.	Station name	Drainage area (mi^2)	Period of record
11362650	Pit no. 5 Powerplant Forebay near Big Bend	--	1986-89
11387995	Black Butte Lake near Orland	738	1964-90
11403300	Three Lakes Reservoir near Bucks Lake	1.0	1984-87
11423700	New Camp Far West Reservoir near Wheatland	283	1967-76, 1977-83
11425300	Halsey Forebay near Auburn	--	1980-86
11425320	Lake Arthur near Auburn	.86	1982-83
11425330	Halsey Afterbay near Auburn	--	1980-85

DISCONTINUED WATER-QUALITY STATIONS

The following continuous water-quality stations in California have been discontinued. Daily records were collected and are stored in NWIS for the period of record shown for each location.

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
10356500	Susan River at Susanville	184	WQ,B,S	1952-93
11341400	Sacramento River near Mt. Shasta	135	T	1966-71, 1973-87
11342000	Sacramento River at Delta	425	WQ,T	1951-81
11345500	South Fork Pit River near Likely	247	WQ,T,S	1951-79
11348500	Pit River near Canby	1,431	WQ,T,S	1951-79
11365000	Pit River near Montgomery Creek	4,952	WQ,T	1951, 1953-81
11368000	McCloud River above Shasta Lake	604	T	1957-59
11370000	Shasta Lake near Redding	6,421	WQ	1978-80
11370500	Sacramento River at Keswick	6,648	B,WQ,C, T,S	1951-94
11371000	Clear Creek at French Gulch	115	S	1966-67
11372000	Clear Creek near Igo	228	WQ,T	1958-79
11372200	South Cow Creek near Millville	77.3	T	1966-71
11374000	Cow Creek near Millville	425	WQ,T,S	1959-71, 1973-76, 1978-79
11374400	Middle Fork Cottonwood Creek near Ono	244	T,S	1965, 1968-73 1977-79
11375700	North Fork Cottonwood Creek near Igo	88.7	T	1977-79
11375810	Cottonwood Creek near Olinda	395	T,S	1973-80
11375820	South Fork Cottonwood Creek near Cottonwood	217	T	1977-79
11375870	South Fork Cottownood Creek near Olinda	371	T,S	1878, 1977-80
11376000	Cottonwood Creek near Cottonwood	927	WQ,T,S	1957-67, 1977-85
11376038	Manzanita Creek at park boundary, near Manzanita Lake	11.6	C,T	1980-81
11376550	Battle Creek below Colman Fish Hatchery, near Cottonwood	357	WQ,T,S	1962-79
11377100	Sacramento River above Bend Bridge, near Red Bluff	8,900	WQ,C,T,S	1955-83
11377200	Sacramento River at Bend Bridge	--	T,S	1959-63, 1967, 1969-70
11378000	Sacramento River near Red Bluff	9,020	T,S	1961-68
11378500	Sacramento River at Red Bluff	9,077	T,S	1958-66
11379500	Elder Creek near Paskenta	92.4	WQ,T,S	1959-70
11380500	Elder Creek at Gerber	136	T,S	1972-79
11381595	Mill Creek at Sherwood Bridge, near Los Molinos	133	T,S	1977-79
11382000	Thomes Creek at Paskenta	203	WQ,T,S	1959-83
11382090	Thomes Creek at Rawson Road Bridge, near Richfield	284	T,S	1978-80
11383600	Deer Creek at Red Bridge, near Vina	210	T,S	1977
11383800	Sacramento River near Hamilton City	10,833	T,S	1977
11384600	Little Stony Creek above East Park Reservoir, near Lodoga	45.6	T	1967-79
11387000	Stony Creek near Fruto	597	T	1971-78
11387200	Stony Creek above Black Butte Lake, near Orland	623	T,S	1981-83
11387900	Masterson Hollow Creek near Newville	.96	T	1982
11388000	Stony Creek below Black Butte Dam, near Orland	738	WQ,S,T	1958-94
11389000	Sacramento River at Butte City	12,080	WQ,T,S	1955-67,1969-8
11389470	Colusa Weir Spill, Butte basin, near Colusa	--	T,S	1975
11389500	Sacramento River at Colusa	12,090	WQ,T,S	1959-66, 1973-80
11390000	Butte Creek near Chico	147	WQ,T	1953-79
11390210	Cherokee Canal near Nelson	--	T,S	1970-74
11390425	Sutter Bypass at Long Bridge, near Meridian	--	T,S	1979
11390480	Tisdale Weir near Grimes	--	S	1978-80
11390600	Sacramento River at Boyers Bend, near Dunnig	--	T	1960-63
11391000	Sacramento River at Knights Landing	14,535	T,S	1959-60, 1978-80
11391050	Sutter Bypass near Nicolaus	--	T,S	1980-81
11391100	Sacramento Slough near Knights Landing	--	WQ,C,T,S	1996
11391500	Big Grizzly Creek at Grizzly Valley Dam, near Portola	44	T	1963-67
11392500	Middle Fork Feather River near Clio	686	T	1964-82
11394500	Middle Fork Feather River near Merrimac	1,062	T	1963-82
11396350	South Fork Feather River at Ponderosa Dam	108	T	1963-67
11401180	Little Grizzly Creek near Genesee	29.6	T	1964-79
11401500	Indian Creek near Crescent Mills	739	WQ,T,S	1951-79
11404500	North Fork Feather River at Pulga	1,953	WQ,T	1963-83
11405300	West Branch Feather River near Paradise	--	T	1963-80
11406870	Thermolito Afterbay at river outlet	--	T	1968
11406920	Thermolito Afterbay Release to Feather River near Oroville	--	T	1969-92

DISCONTINUED WATER-QUALITY STATIONS—Continued

Station No.	Station name	Drainage area (mi^2)	Type of record	Period of record
11407000	Feather River at Oroville	3,624	C,S,T	1906-07, 1951-92
11407150	Feather River near Gridley	3,676	WQ,T,S	1965-93
11407700	Feather River at Yuba City	3,974	T	1964-76
11409000	Middle Yuba River above Oregon Creek, near San Juan	162	T	1965-69
11409400	Oregon Creek below Log Cabin Dam, near Camptonville	29.1	T	1972-79
11409500	Oregon Creek near San Juan	34.4	T	1965-69
11410000	Middle Yuba River below Oregon Creek, near North San Juan	198	T	1974-77
11413100	North Yuba River above Slate Creek, near Strawberry Valley	351	T	1968-69, 1974-77
11413520	North Yuba River below New Bullards Bar Dam, near North San Juan	490	T	1971-74
11413700	Yuba River below Colgate Powerhouse, near French Corral	729	T	1975-78
11417500	South Yuba River at Jones Bar, near Grass Valley	308	T,S	1965-79
11418000	Yuba River below Englebright Dam, near Smartville	1,108	T	1973-78
11418500	Deer Creek near Smartville	84.6	T,S	1974-79
11420800	Yuba River at Daquerra Point Dam, near Browns Valley	1,330	T	1975-77
11421000	Yuba River near Marysville	1,339	WQ	1951-52, 1973-80
11421500	Yuba River at Marysville	1,344	WQ,T	1964, 1966, 1969-70,1973-76
11425000	Feather River at Nicolaus	5,921	T,S	1960-68, 1973-84
11425100	Feather River near Nicolaus	--	T	1969-72, 1974
11425500	Sacramento River at Verona	21,251	WQ,S	1952, 1969-70, 1980
11427000	North Fork American River at North Fork Dam	342	T,WQ,S	1959-83
11429350	Loon Lake near Meeks Bay	--	WQ	1996
11433300	Middle Fork American River, near Foresthill	524	WQ,B	1979
11433400	Canyon Creek near Georgetown	12.7	T	1966-71, 1973-79
11433800	North Fork American River below Auburn dam site, near Auburn	973	T	1983-86
11439500	South Fork American River near Kyburz	193	WQ,T,B,S	1966-79, 1980
11441001	Union Valley Reservoir near Riverton	--	WQ	1996
11441100	Ice House Reservoir near Kyburz	27.2	WQ	1996
11445500	South Fork American River near Lotus	673	B,S,WQ,T	1957-68, 1970-94
11446500	American River at Fair Oaks	1,888	WQ,T	1960-65
11447030	Strong Ranch Slough at Sacramento	5.02	C	1973-75
11447500	Sacramento River at Sacramento	23,502	S	1957-79
11447650	Sacramento River at Freeport	--	B,C	1974-81, 1985-94
11447810	Sacramento River at Greens Landing	--	C	1974-81
11449010	Highland Creek below Highland Creek Dam, near Kelseyville	14.2	T,S	1967-77
11451760	Cache Creek above Rumsey	955	T,S	1960-70, 1976, 1984-86
11451950	Cache Creek near Brooks	1,041	T,S	1984-86
11452500	Cache Creek at Yolo	1,139	T,S	1959-65, 1966-67, 1986
11453000	Yolo Bypass near Woodland	--	S	1957-61, 1980
11453170	Dry Creek above Appletree Creek, near Middletown	.83	C,T	1978
11453500	Putah Creek near Guenoc	113	T,S	1960-73
11453550	Hunting Creek near Knoxville	37.8	T,S	1973-74
11454000	Putah Creek near Winters	574	WQ,T	1951-81

Type of record: WQ (Water-quality); B (Biological); C (Conductivity); T (Temperature); S (Sediment).

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 1997
VOLUME 4—NORTHERN CENTRAL VALLEY BASINS AND THE GREAT BASIN FROM HONEY LAKE BASIN TO OREGON STATE LINE

By G.L. Rockwell, M.F. Friebel, M.D. Webster, *and* S.W. Anderson

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State and Federal agencies, obtains a large amount of data pertaining to the water resources of California each water year. These data, accumulated during many water years, constitute a valuable database for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data—California."

This volume of the report includes records on surface water in the State. Specifically, it contains: (1) discharge records for 176 streamflow-gaging stations and 1 partial-record station; (2) stage and content records for 45 lakes and reservoirs; (3) gage-height records for 3 stations; (4) precipitation records for 3 stations; and (5) water-quality records for 14 streamflow-gaging stations and 6 water-quality partial-record stations. Records included for stream stages are only a small fraction of those obtained during the water year.

The series of annual reports for California began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format changed to include data on quantities of surface water, quality of surface and ground water, and ground-water levels. From the 1985 through the 1993 water years, a separate volume for ground-water levels and quality was published for California.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for California were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 10 and 11." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." These Water-Supply Papers may be consulted in public libraries of principal cities of the United States, or if not out of print, they may be purchased from U.S. Geological Survey, Information Services, Box 25286, Denver Federal Center, Denver, CO 80225-0046.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. Each report has an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CA-97-4." For archiving and general distribution, the reports for 1971–74 water years also are identified as water-data reports. These water-data reports are for sale, in paper copy or on microfiche, by the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. For further ordering information, the Customer Inquiries telephone number is (703) 487-4650, between 8:30 a.m. and 5:30 p.m. Eastern Standard Time.

Additional information for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone at (916) 278-3100.

COOPERATION

The U.S. Geological Survey and organizations of the State of California have had cooperative agreements for the systematic collection of records since 1903. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

California Department of Water Resources, David N. Kennedy, Director.

Georgetown Divide Public Utility District, Marie E. Davis, General Manager.

Sacramento County Department of Public Works, Craig Crouch, Principal Civil Engineer

Yolo County Flood Control and Water Conservation District, James F. Eagan, General Manager.

Yuba County Water Agency, Donn Wilson, Engineer-Administrator.

Assistance in the form of funds or services was given by the Bureau of Reclamation and the National Park Service, U.S. Department of Interior.

The following organizations aided in collecting records: California Department of Water Resources; Energy Growth Partnership I; Five Bears Hydro, Inc.; Highland Hydro Construction; Independent Hydro; Lassen Station Hydroelectric L.P.; Malacha Power Project, Inc.; Nelson Creek Power Co.; Pacific Gas and Electric Co.; Sacramento Municipal Utility District; Nevada and Oroville–Wyandotte Irrigation Districts; Sithe Energies, Inc.; South Sutter Water District; STS Hydropower; Synergics, Inc.; and Placer and Yuba County Water Agencies.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins—the Mississippi, the Columbia, the Colorado, and the Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO2 emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO2 and NOx scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the world wide web at:

http://nadp.nrel.colostate.edu/NADP

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the world wide web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1997 water year that began October 1, 1996, and ended September 30, 1997. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and contents data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station-Identification Numbers

Each streamsite data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream-order" system is used for regular surface-water stations and the "latitude-longitude" system is used for surface-water stations in California where only miscellaneous measurements are made.

Downstream-Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports has been in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station such as 11396310, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "396310." The part number designates the major river basin; for example, part "11" is the Pacific Slope Basins in California.

Latitude-Longitude System

The identification numbers for miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description (fig. 1).

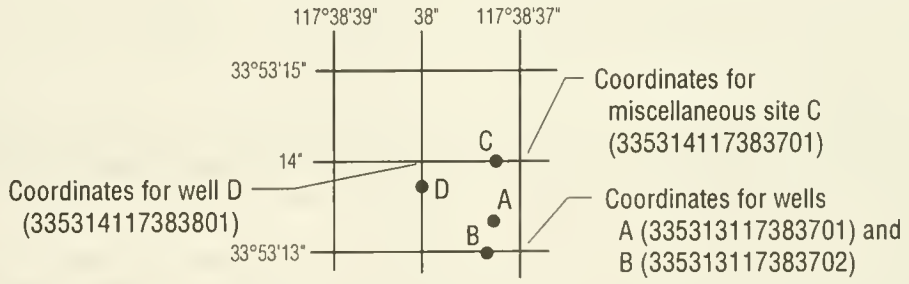

Figure 1. System for numbering miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake and reservoir contents, similarly, are those for which stage or contents may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record stations for which data are given in this report are shown, by county, in figures 2 through 23.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relation between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relation between stage and lake contents. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with digital recorders, data collection platforms, or data loggers that sample stage values at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in U.S. Geological Survey Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI), Book 3, Chapters A1 through A19, and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge are prepared for any stage within the range of the measurements. If it is necessary to define extremes of discharge outside the range of current-meter measurements, the curves are extended using (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dam or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes or observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some gaging stations, acoustic velocity meter (AVM) systems are used to compute discharge. The AVM system measures the stream's velocity at one or more paths in the cross section. Coefficients are developed to relate this path velocity to the mean velocity in the cross section. Because the AVM sensors are fixed in position, the adjustment coefficients generally vary with stage. Cross-sectional area curves are developed to relate stage, recorded as noted above, to cross-section area. Discharge is computed by multiplying path velocity by the appropriate stage-related coefficient and area.

In computing records of lake or reservoir contents, it is necessary to have available surveys, curves, or tables defining the relation of stage and contents. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation. When this is done, the contents computed may become increasingly in error as time increases since the last survey. Discharges over lake or reservoir spillways are computed from stage-discharge relations in the same manner as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following records, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.—Information on locations is obtained from the most accurate maps available. The location of the gaging station is given with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council, or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.—Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.—This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time when the present station was not, and whose location was such that records from it reasonably can be considered equivalent with records from the present station.

REVISED RECORDS.—Published records, because of new information, occasionally are incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report is given in which the most recently revised figure was published.

GAGE.—The type of gage currently in use, the datum of the current gage referred to sea level (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.—All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a REMARKS paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph also is used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station, and possibly to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified.

EXTREMES FOR PERIOD OF RECORD.—Extremes may include maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately.

Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.—Included is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.—Extremes given are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year that are greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.—If a critical error is discovered in published records, a revision is included in the first report published following discovery of the error.

Occasionally the records of a discontinued gaging station may need revision. Because for these stations there would be no current or, possible, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office to determine if the published records were revised after the station was discontinued. If the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream-gaging stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also usually is expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN."); or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS __–__, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS __–__," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes.

Selected streamflow duration curve statistics and runoff data also are given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.—The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.—The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.—The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.—The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.—The minimum daily mean discharge for the year or for the designated period.

INSTANTANEOUS PEAK FLOW.—The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.—The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.—The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.—Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Inches (IN.) indicates the depth to which the drainage area would be covered if all the runoff for a given period were distributed on it uniformly.

10 PERCENT EXCEEDS.—The discharge that is exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that is exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that is exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements generally are made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing the table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage and discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second (ft^3/s) for values less than 1 ft^3/s, to the nearest tenth between 1.0 and 10 ft^3/s, to whole numbers between 10 and 1,000 ft^3/s, and to three significant figures

for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the measured discharge.

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 20192, maintains an index of sites as well as an index of records of discharge collected by other agencies but not published by the U.S. Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge measurement notes, gage-height records, temperature measurements, and rating tables are on file in the District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District Office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve various types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape or stored electronically in a data logger. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 2 through 23.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern is the assurance that the data obtained represent the in-situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, are made onsite when samples are taken. To assure that measurements made in the laboratory also represent the in-situ water, carefully prescribed procedures are followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in "Techniques of Water-Resources Investigations," Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. All these references are listed in the section "Publications on Techniques of Water-Resources Investigations." Also, detailed information on collecting, treating, and shipping samples may be obtained from the District Office.

One sample can adequately define the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream-Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative value available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based on hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the District Office.

Historical and current (1997) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter (µg/L) and could reflect contamination introduced during some phase of the procedure.

Water Temperature

Water temperatures are measured at the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District Office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations measured immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with the ASTM standards and generally follow ISO standards.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of suspended sediment, bed material, and bedload are included for some stations.

Estimates of bedload and total-sediment discharge are included for some stations. Computations of monthly bedload discharges are based on the relation between instantaneous water discharge and corresponding bedload discharge for the station. Values of bedload discharge used in defining this relation are based on samples obtained by use of the Helley-Smith or BL 84 bedload samplers or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bedload-transport relation at a station was made on a daily basis or subdivided-day basis. The bedload samplers are designed to collect time-weighted samples for the sediment moving within 0.25 ft of the streambed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers. Calibration of the bedload samplers has not been completed, and a trap efficiency of 1.0 has been assumed applicable to these devices. Error sources in the theoretical methods, based on analysis of bed-material

characteristics, channel geometry, and associated hydraulic factors, are also undefined. In consequence, figures of bedload discharge must be used with caution. They are estimates, at best, and are subject to revision.

Cross-Sectional Data

Cross-sectional surveys of water temperature, pH, specific conductance, dissolved oxygen, and suspended sediment are done at all NASQAN and Hydrologic bench-mark stations during various seasons and surface-water discharges. Documentation of cross-section variation of water quality is essential in order to determine how many samples in a cross section are necessary to ensure a representative composite sample.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S Geological Survey's National Water-Quality Laboratory in Arvada, Colorado. Methods used to analyze sediment samples and to compute sediment records are described in the Techniques of Water-Resources Investigations, Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

Water Quality-Control Data

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District are describe in the following section. Procedures have been established for the storage of water-quality-control data within the U. S. Geological Survey. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure the environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this District are:

Field blank—a blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—a blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—a blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—a blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and

analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this District are:

Sequential samples—a type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and other data obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation under "Records of Stage and Water Discharge"; same comments apply.

DRAINAGE AREA.—See Data Presentation under "Records of Stage and Water Discharge"; same comments apply.

PERIOD OF RECORD.—This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the individual parameters.

INSTRUMENTATION.—Information on instrumentation is given only if a water-quality monitor, temperature recorder, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.—Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.—Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—If errors in water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, National Water Information System (NWIS), and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

ACCESS TO USGS WATER DATA

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

http://water.usgs.gov.

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of additional data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices. (See address on the back of the title page.)

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report are defined below. See the table for converting inch–pound units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by a well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease; others perform an essential role in nature in the recycling of materials, for example, decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. For the membrane filter method, these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C ± 0.5°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Fecal-coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. For the membrane filter method, they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Fecal-streptococcal bacteria are bacteria found in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. For the membrane filter method they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 0.5°C on KF streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milligrams per liter of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Benthic organisms (invertebrates) are the group of animals living in or on the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3) and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cell volume determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell numbers of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements on cell dimensions (that is, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the

nearest geometric solid or combinations of simple solids (that is, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^3 h$ cylinder $\pi r^3 h$.

From cell volume, total algal biomass expressed as biovolume (πm^3/mL) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

Cells per volume (cells/volume) refers to the number of cells of any organism that are counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually in milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll *a* and *b* are the two most common pigments in plants.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second per day (cfs/d) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons or 2,445 cubic meters.

Discharge is the volume of water (or more broadly, total fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1–March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Dissolved refers to that material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate. It is recognized that certain kinds of samples cannot be filtered; to provide for this, procedures that are considered equivalent to filtering through a 0.45-micrometer membrane filter will be identified and announced at a later date.

Dissolved-solids concentration of water is determined either analytically or by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = \sum_{i=1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the samples are the same; to some positive number, when some or all the organisms in the sample are different.

Drainage area of a stream at a specified location in that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the Earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water, together with all tributary surface streams and bodies of impounded surface water.

Gage datum is the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level. This elevation is established by a system of levels from known bench marks or by approximation from topographic maps.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap that is required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic Benchmark Network is a network of approximately 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e \frac{I}{I_o}.$$

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that are usually arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This development process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-pupa-adult or egg-nymph-adult.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of sediment per liter of water-sediment mixture.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO2 emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO2 and NOx scheduled to begin in 2000.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called Sea Level Datum of 1929 or mean sea level in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins—the Mississippi, the Columbia, the Colorado, and the Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area of the habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter code is a five-digit number used in the U.S. Geological Survey's data system, National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS are the same as those used in the U.S. Environmental Protection Agency's data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a site where limited streamflow and (or) water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	0.00024–0.004	Sedimentation
Silt	0.004–0.062	Sedimentation
Sand	0.062–2.0	Sedimentation or sieve
Gravel	2.0–64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition or percent of total is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, or volume.

Periphyton is the assemblage of micro-organisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, the periphyton also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants, respectively, are the two categories reported.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes

including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton are suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton compose the plant part of the plankton. They are usually microscopic, and their movement is subject to water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials into the surrounding water, the phytoplankton have a profound effect on the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are phytoplankton organisms having a blue pigment in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms, chiefly green plants. The rate of primary production is estimated by measuring the amount of carbon assimilated by plants (carbon method) or the amount of oxygen released (oxygen method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2/time) for periphyton and macrophytes and mg C/(m^3/time) for phytoplankton] are the units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O_2 /(m^2/time) for periphyton and macrophytes and mg O_2 /(m^3/time) for phytoplankton] are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment; thus, the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bedload is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bedload is considered to consist of particles in transit within 0.25 ft (0.076 m) of the streambed.

Bedload discharge (tons per day) is the quantity of sediment, as measured by dry weight, that moves past a section as bedload in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour period.

Suspended-sediment discharge (tons per day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day by multiplying discharge times milligrams per liter times 0.0027.

Suspended-sediment load (tons per day) is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total-sediment discharge or total-sediment load (tons per day) is the sum of suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry mass, that passes a section in a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating dissolved-solids concentration in water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic-organism collection and plexiglass strips for periphyton collection.

Surface area of a lake is the area, in square miles or acres, outlined on the latest U.S. Geological Survey topographic map as the boundary of the lake and measured by a planimeter. In localities not covered by topographic maps, the areas are computed from the best maps available. Areas shown are for the lake stage at the time the map was made.

Surficial bed material is the part (upper 0.1 to 0.2 ft or 0.03 to 0.06 m) of the bed material that is sampled by using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment; thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata* is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	*Hexagenia*
Species	*Hexagenia limbata*

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that records water temperature in a digital format on punched paper tape.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total load (tons) is the total amount of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the milligrams per liter of the constituent, times the factor 0.0027, times the number of days.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment; thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in the dissolved and suspended phases of the sample. A knowledge of the expected form is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all the constituent in the sample.)

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Nephelometric turbidity units (NTU), obtained from the Nephelometric method for turbidity determination which measures the intensity of light scattered by suspended particles at 90° from the path of incident light source.

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1997, is called the "1997 water year."

WDR is used as an abbreviation for "Water-Data Reports" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. *Water temperature—influential factors, field measurement, and data presentation,* by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS—TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents,* by W.W. Wood: USGS—TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations,* by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS—TWRI Book 2, Chapter D1. 1974. 116 pages.

2-D2. *Application of seismic-refraction techniques to hydrologic studies,* by F.P. Haeni: USGS—TWRI Book 2, Chapter D2. 1988. 86 pages.

2-E1. *Application of borehole geophysics to water-resources investigations,* by W.S. Keys and L.M. MacCary: USGS—TWRI Book 2, Chapter E1. 1971. 126 pages.

2-E2. *Borehole geophysics applied to ground-water investigations,* by W.S. Keys: USGS—TWRI Book 2, Chapter E2. 1990. 150 pages.

2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells,* by Eugene Shuter and W.E. Teasdale: USGS—TWRI Book 2, Chapter F1. 1989. 97 pages.

3-A1. *General field and office procedures for indirect discharge measurements,* by M.A. Benson and Tate Dalrymple: USGS—TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. *Measurement of peak discharge by slope-area method,* by Tate Dalrymple and M.A. Benson: USGS—TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS—TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS—TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS—TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS—TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS—TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS—TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. *Measurement of time of travel in streams by dye tracing,* by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS—TWRI Book 3, Chapter A9. 1989. 27 pages.

3-A10. *Discharge ratings at gaging stations,* by E.J. Kennedy: USGS—TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by moving-boat method,* by G.F. Smoot and C.E. Novak: USGS—TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. *Fluorometric procedures for dye tracing,* Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS—TWRI Book 3, Chapter A12. 1986. 34 pages.

3-A13. *Computation of continuous records of streamflow,* by E.J. Kennedy: USGS—TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS—TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS—TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers,* by F.A. Kilpatrick and E.D. Cobb: USGS—TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS—TWRI Book 3, Chapter A17. 1985. 38 pages.

3-A18. *Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS—TWRI Book 3, Chapter A18. 1989. 52 pages.

3-A19. *Levels at streamflow gaging stations,* by E.J. Kennedy: USGS—TWRI Book 3, Chapter A19. 1990. 31 pages.

3-A20. *Simulation of soluable waste transport and buildup in surface waters using tracers,* by F.A. Kilpatrick: USGS—TWRI Book 3, Chapter A20. 1993. 38 pages.

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3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction,* by G.D. Bennett: USGS—TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers,* by J.E. Reed: USGS—TWRI Book 3, Chapter B3. 1980. 106 pages.

3-B4. *Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS—TWRI Book 3, Chapter B4. 1990. 232 pages.

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3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction,* by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS—TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. *The principle of superposition and its application in ground-water hydraulics,* by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS—TWRI Book 3, Chapter B6. 1987. 28 pages.

3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow,* by E.J. Wexler: USGS—TWRI Book 3, Chapter B7. 1992. 190 pages.

3-C1. *Fluvial sediment concepts,* by H.P. Guy: USGS—TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment,* by H.P. Guy and V.W. Norman: USGS—TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS—TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology,* by H.C. Riggs: USGS—TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves,* by H.C. Riggs: USGS—TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations,* by H.C. Riggs: USGS—TWRI Book 4, Chapter B1. 1972. 18 pages.

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4-B3. *Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS—TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells,* by C.T. Jenkins: USGS—TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M.J. Fishman and L.C. Friedman, editors: USGS—TWRI Book 5, Chapter A1. 1989. 545 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy,* by P.R. Barnett and E.C. Mallory, Jr.: USGS—TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for the determination of organic substances in water and fluvial sediments,* edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS—TWRI Book 5, Chapter A3. 1987. 80 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* by L.J. Britton and P.E. Greeson, editors: USGS—TWRI Book 5, Chapter A4. 1989. 363 pages.

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5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L.C. Friedman and D.E. Erdmann: USGS—TWRI Book 5, Chapter A6. 1982. 181 pages.

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6-A1. *A modular three-dimensional finite-difference ground-water flow model,* by M.G. McDonald and A.W. Harbaugh: USGS—TWRI Book 6, Chapter A1. 1988. 586 pages.

6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model,* by S.A. Leake and D.E. Prudic: USGS—TWRI Book 6, Chapter A2. 1991. 68 pages.

6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual,* by L.J. Torak: USGS—TWRI Book 6 Chapter A3. 1993. 136 pages.

6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions,* by R.L. Cooley: USGS—TWRI Book 6, Chapter A4. 1992. 108 pages.

6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details,* by L.J. Torak: USGS—TWRI Book 6, Chapter A5. 1993. 243 pages.

6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction,* by Eric D. Swain and Eliezer J. Wexler. 1995. 125 pages.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS—TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water,* by L.F. Konikow and J.D. Bredehoeft: USGS—TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels,* by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS—TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. *Methods of measuring water levels in deep wells,* by M.S. Garber and F.C. Koopman: USGS—TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. *Installation and service manual for U.S. Geological Survey manometers,* by J.D. Craig: USGS—TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. *Calibration and maintenance of vertical-axis type current meters,* by G.F. Smoot and C.E. Novak: USGS—TWRI Book 8, Chapter B2. 1968. 15 pages.

9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators,* by D.N. Myers and F.D. Wilde: USGS--TWRI Book 9, Chapter A7. 1997. 49 pages.

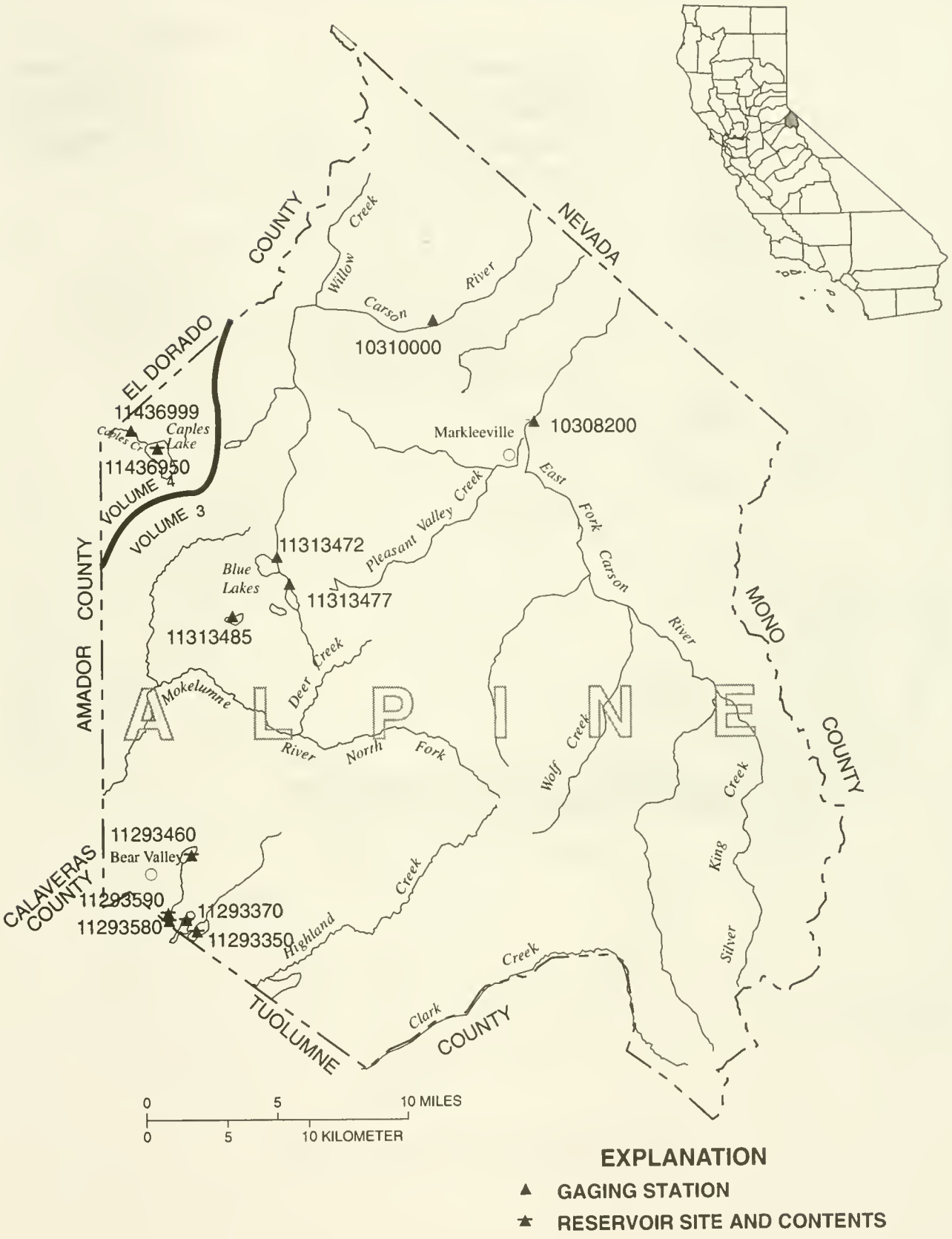

Figure 2. Location of discharge stations in Alpine County.
(NOTE: Records for stations 10308200 through 10310000 and 11293350 through 11313485 published in volume 3.)

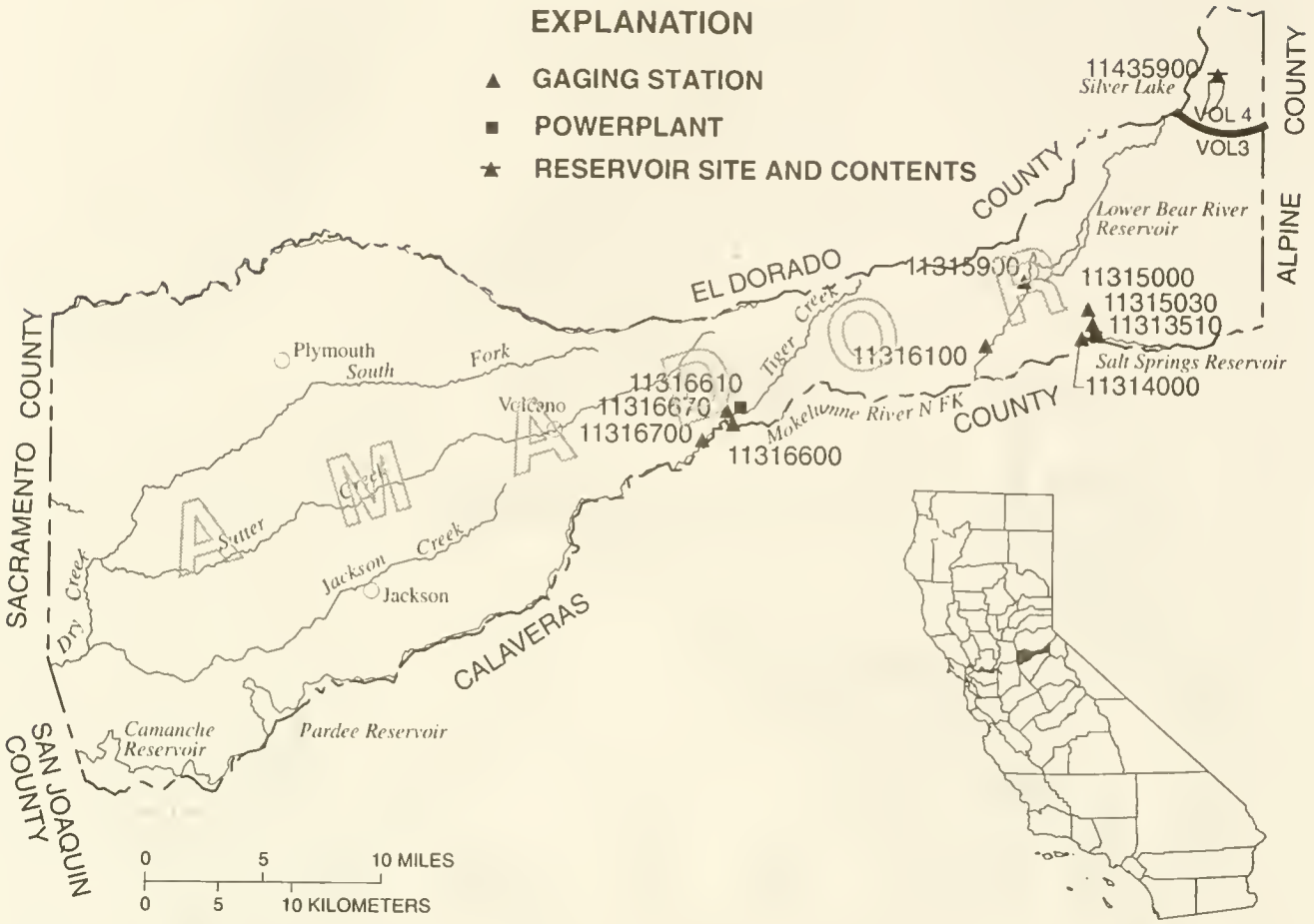

Figure 3. Location of discharge stations in Amador County.
(NOTE: Records for stations 11313510 through 11316700 published in volume 3.)

Figure 4. Location of discharge stations in Butte County.

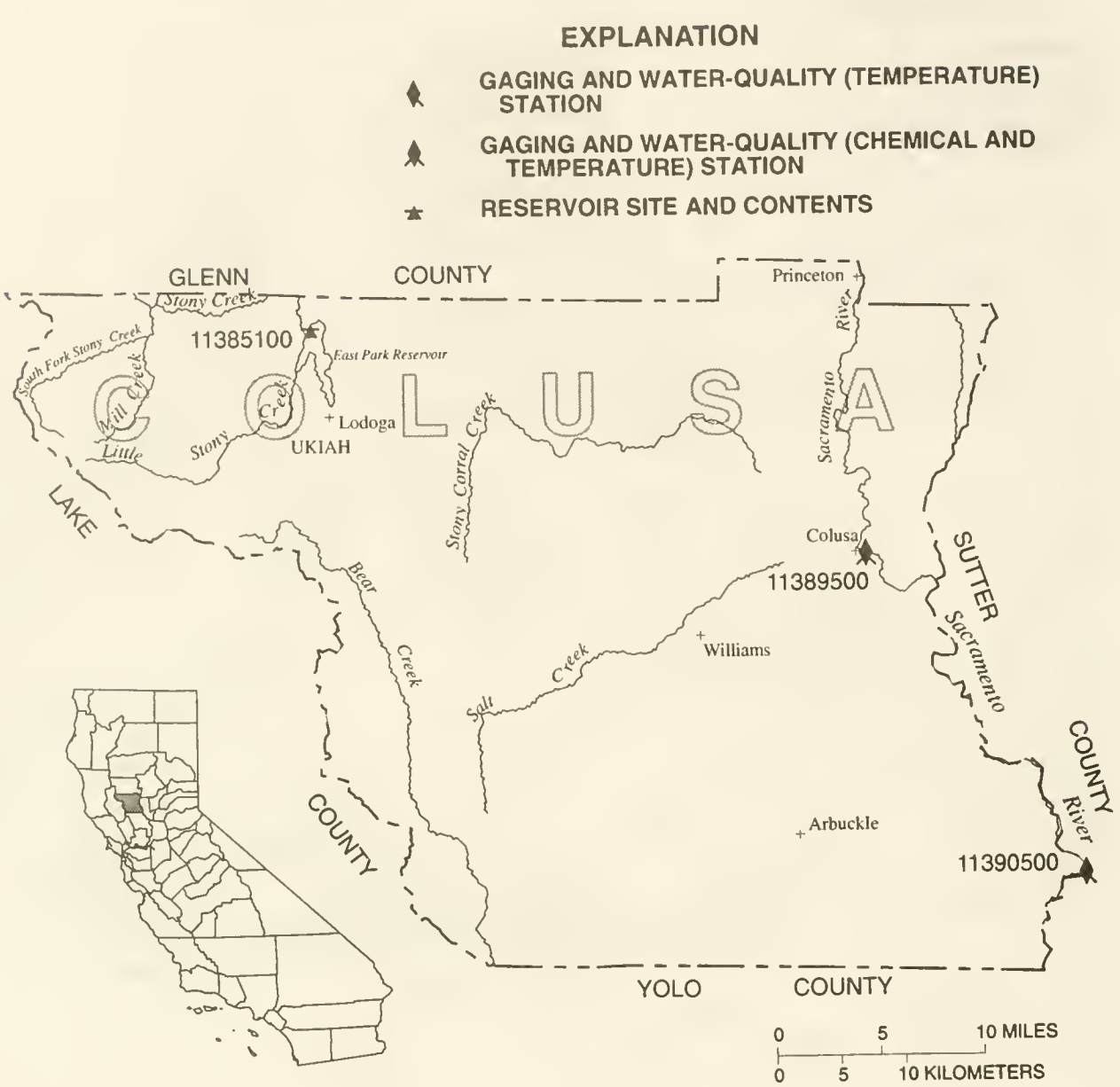

Figure 5. Location of discharge and water-quality stations in Colusa County.

Figure 6. Location of discharge and water-quality stations in El Dorado County.
(NOTE: Records for stations 10336608 through 10336790 and 11333000 published in volume 3.)

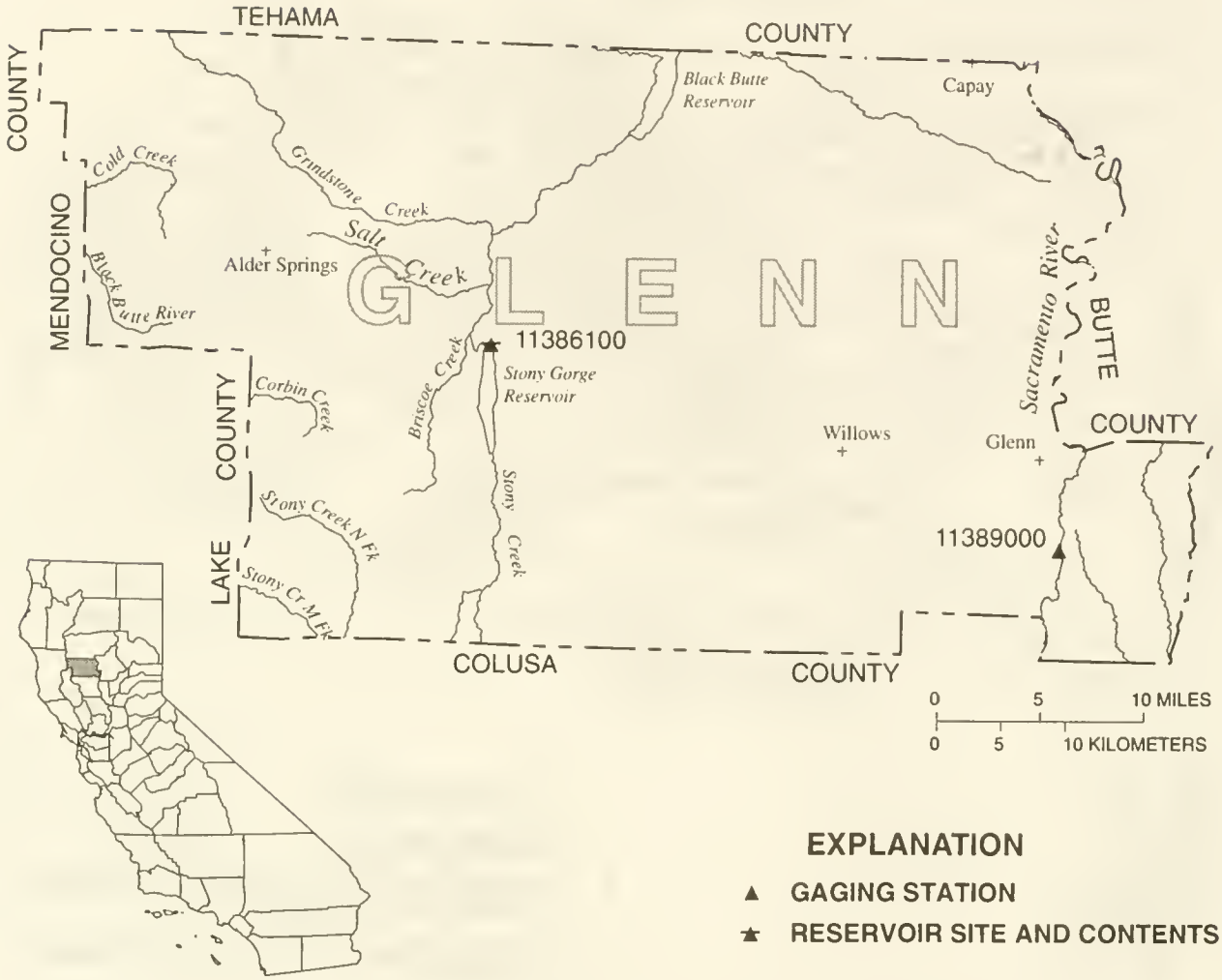

Figure 7. Location of discharge stations in Glenn County.

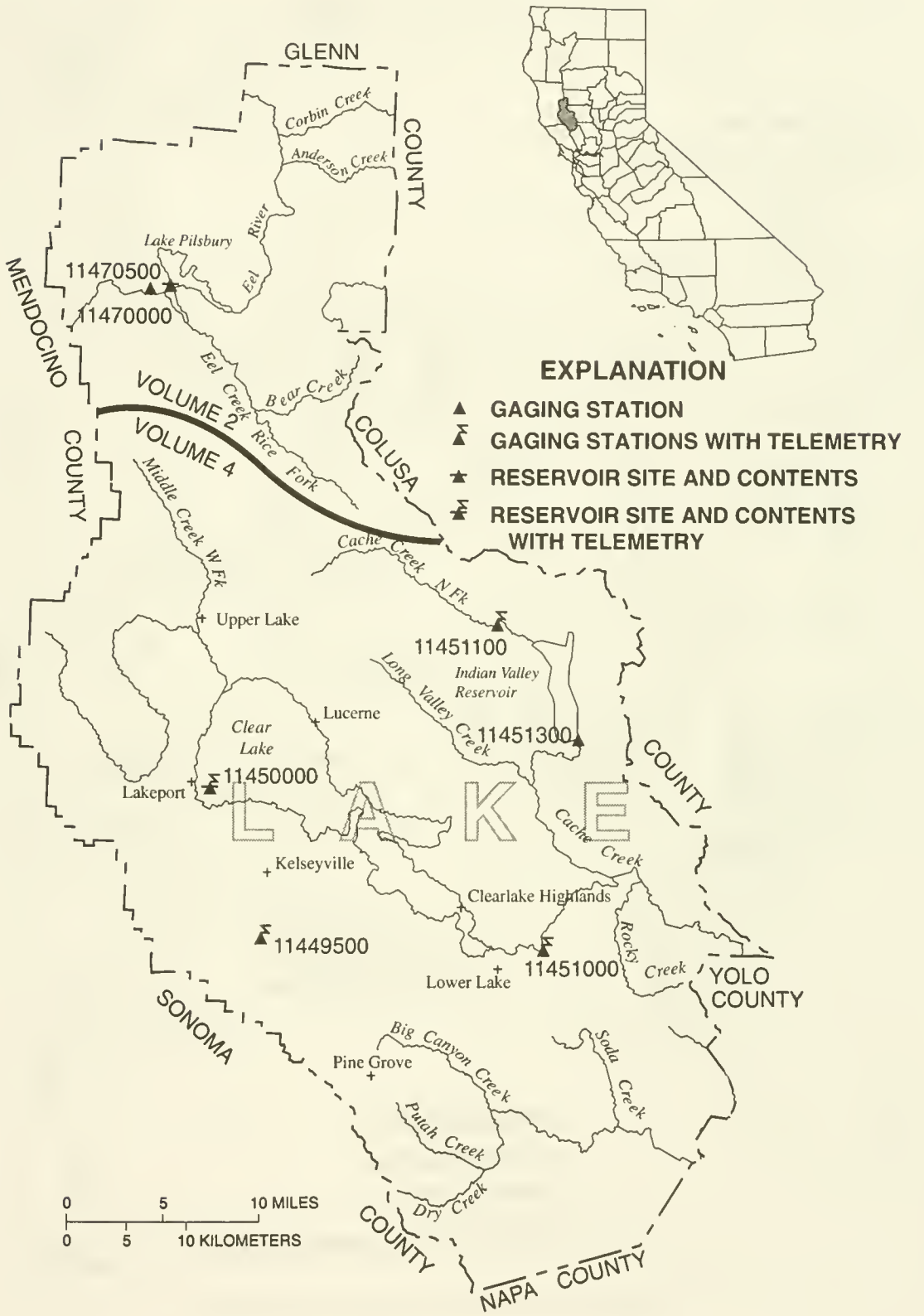

Figure 8. Location of discharge stations in Lake County.
(NOTE: Records for stations 11470000 and 11470500 published in volume 2.)

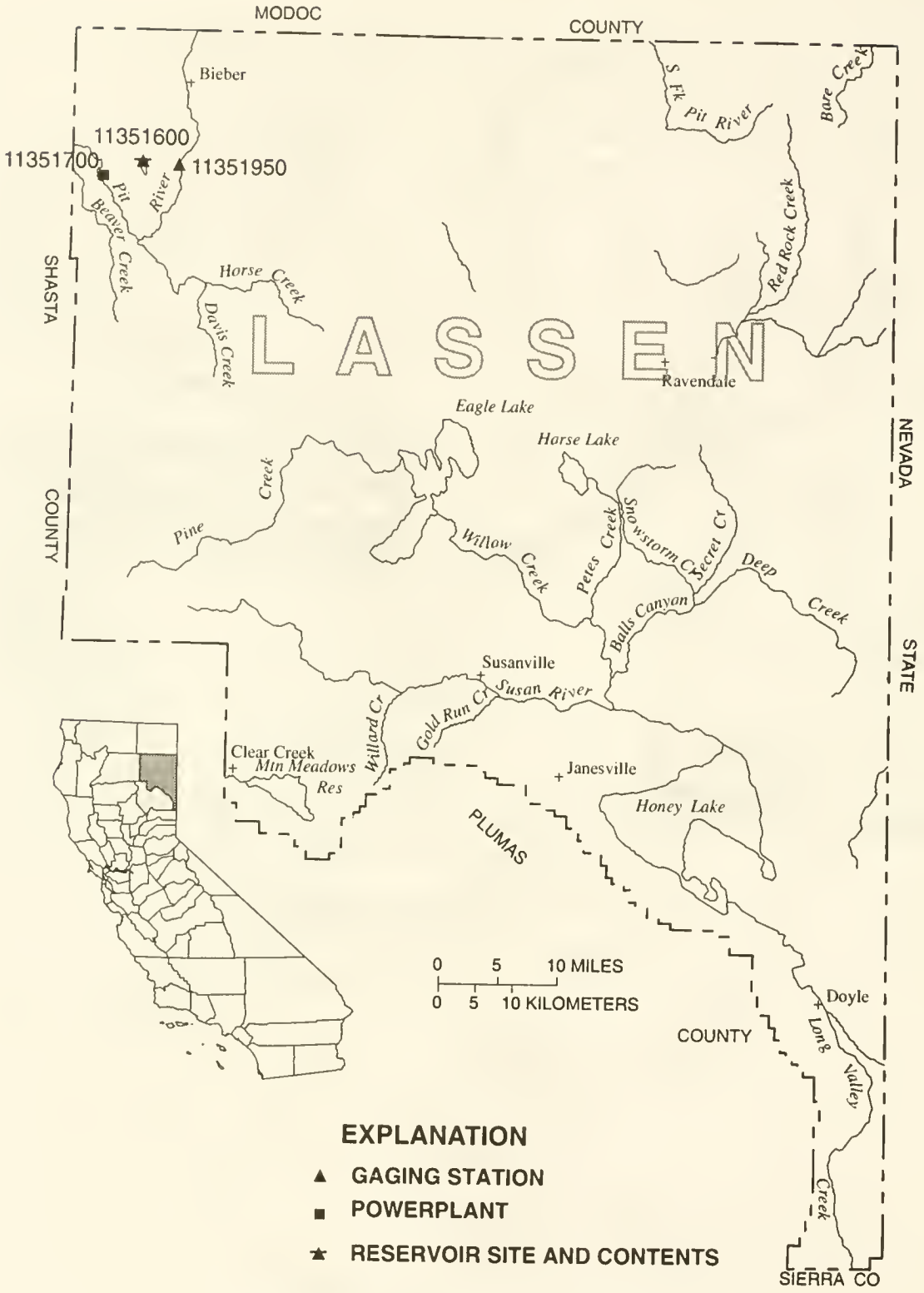

Figure 9. Location of discharge stations in Lassen County.

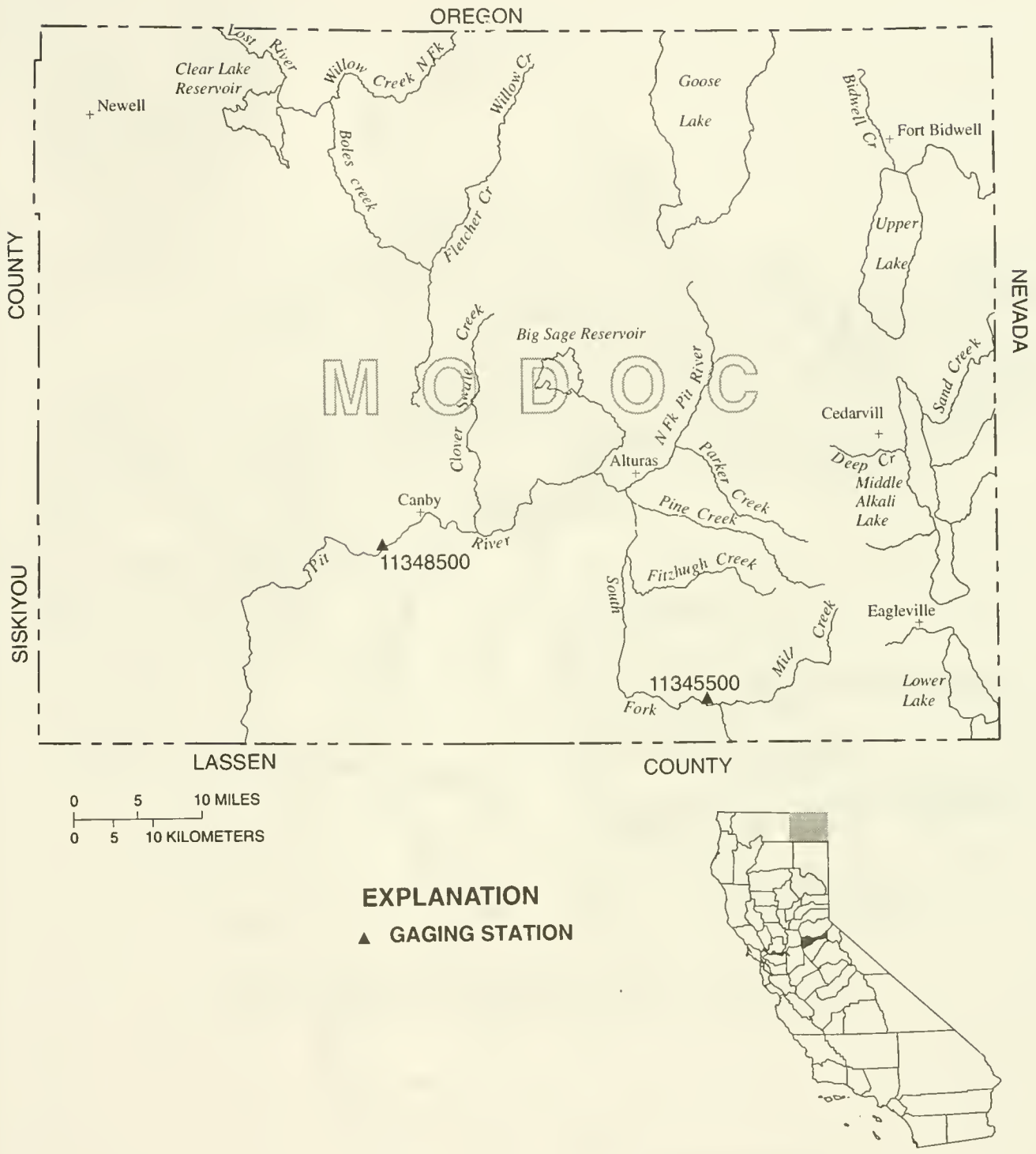

Figure 10. Location of discharge stations in Modoc County.

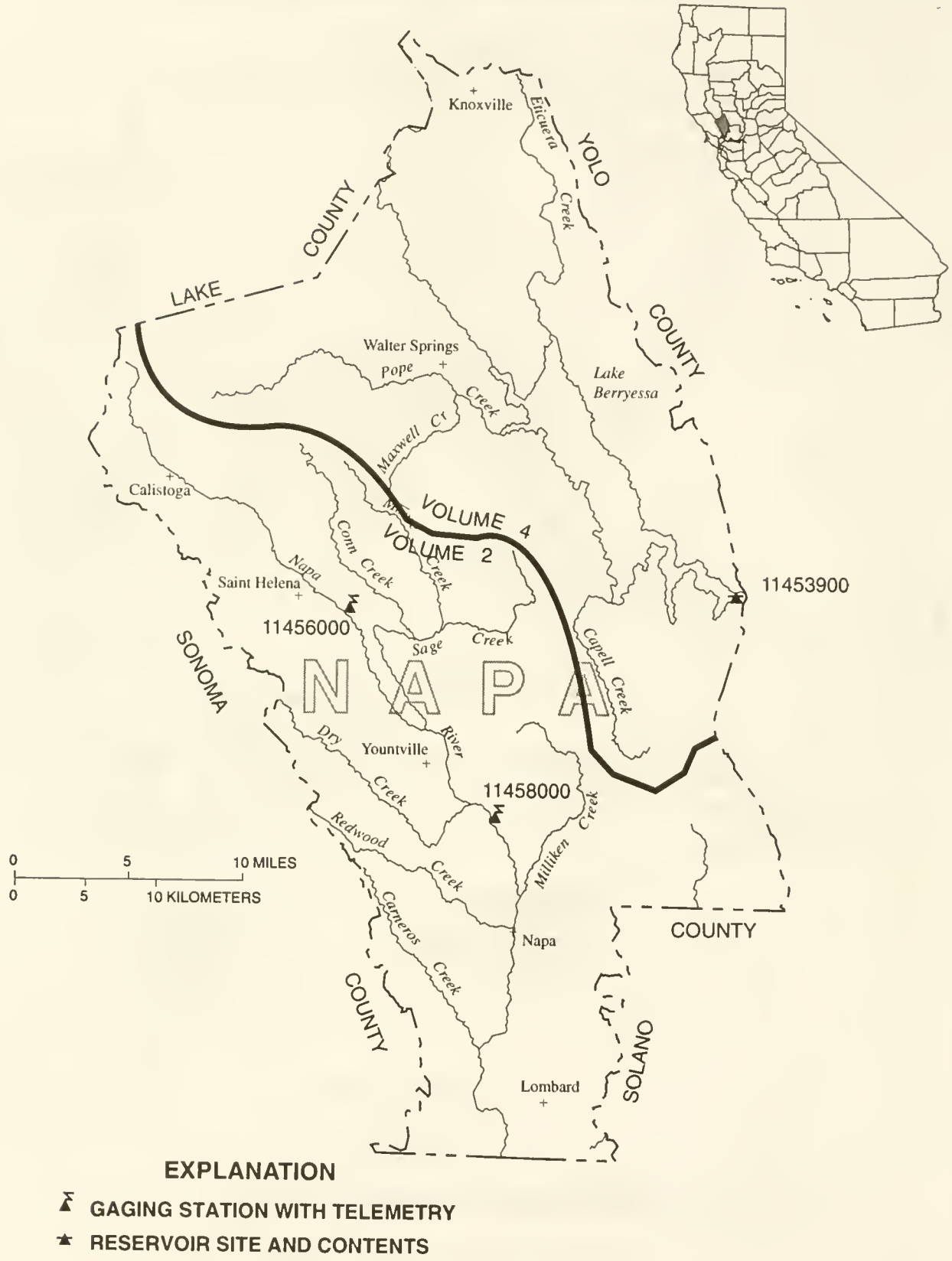

Figure 11. Location of discharge stations in Napa County.
(NOTE: Records for stations 11456000 and 11458000 published in volume 2.)

Figure 12. Location of discharge and water-quality stations in Nevada County.
(NOTE: Records for stations 10338400 through 10346000 published in volume 3.)

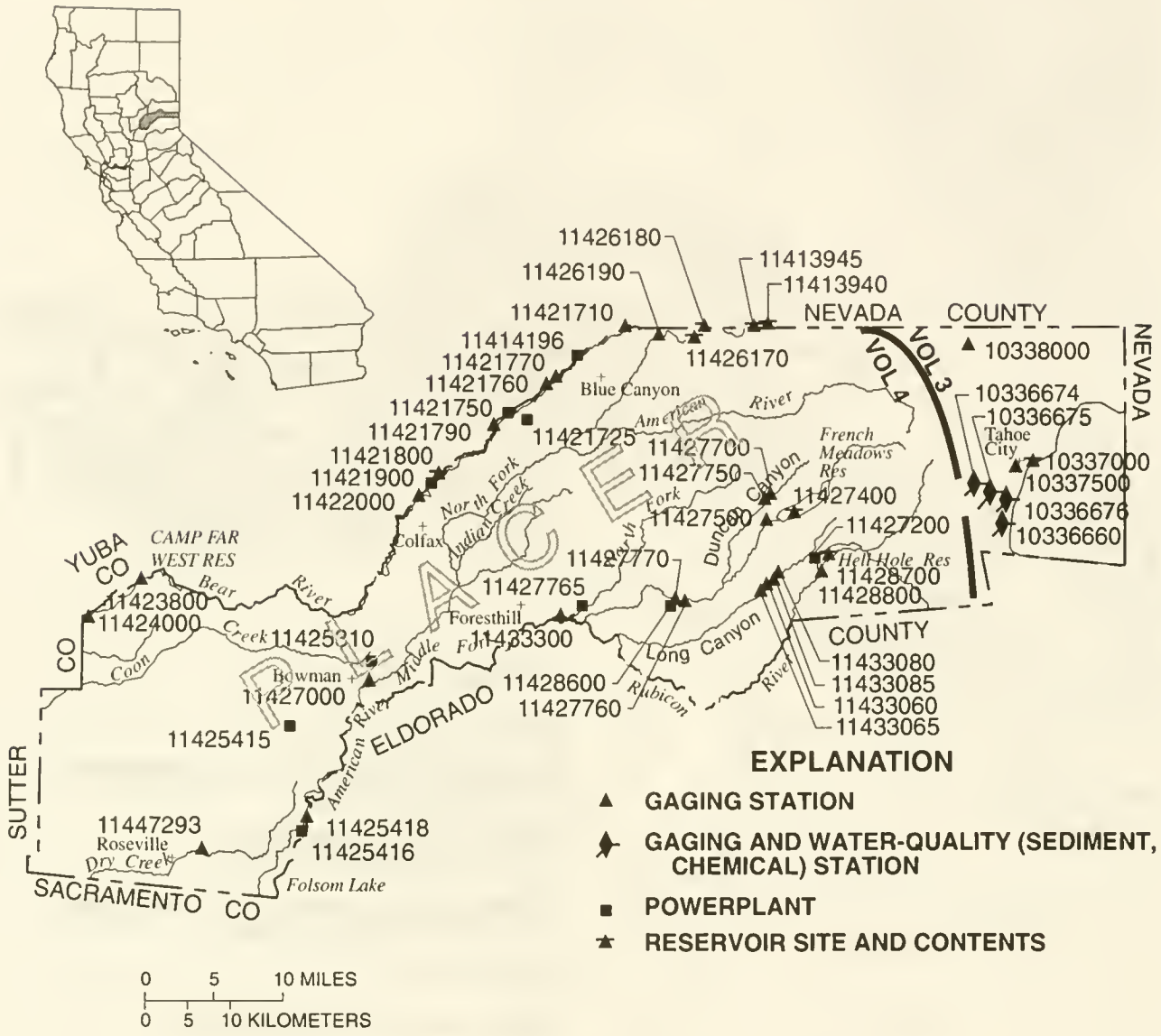

Figure 13. Location of discharge and water-quality stations in Placer County.
(NOTE: Records for stations 10336660 through 10338000 published in volume 3.)

Figure 14. Location of discharge stations in Plumas County.

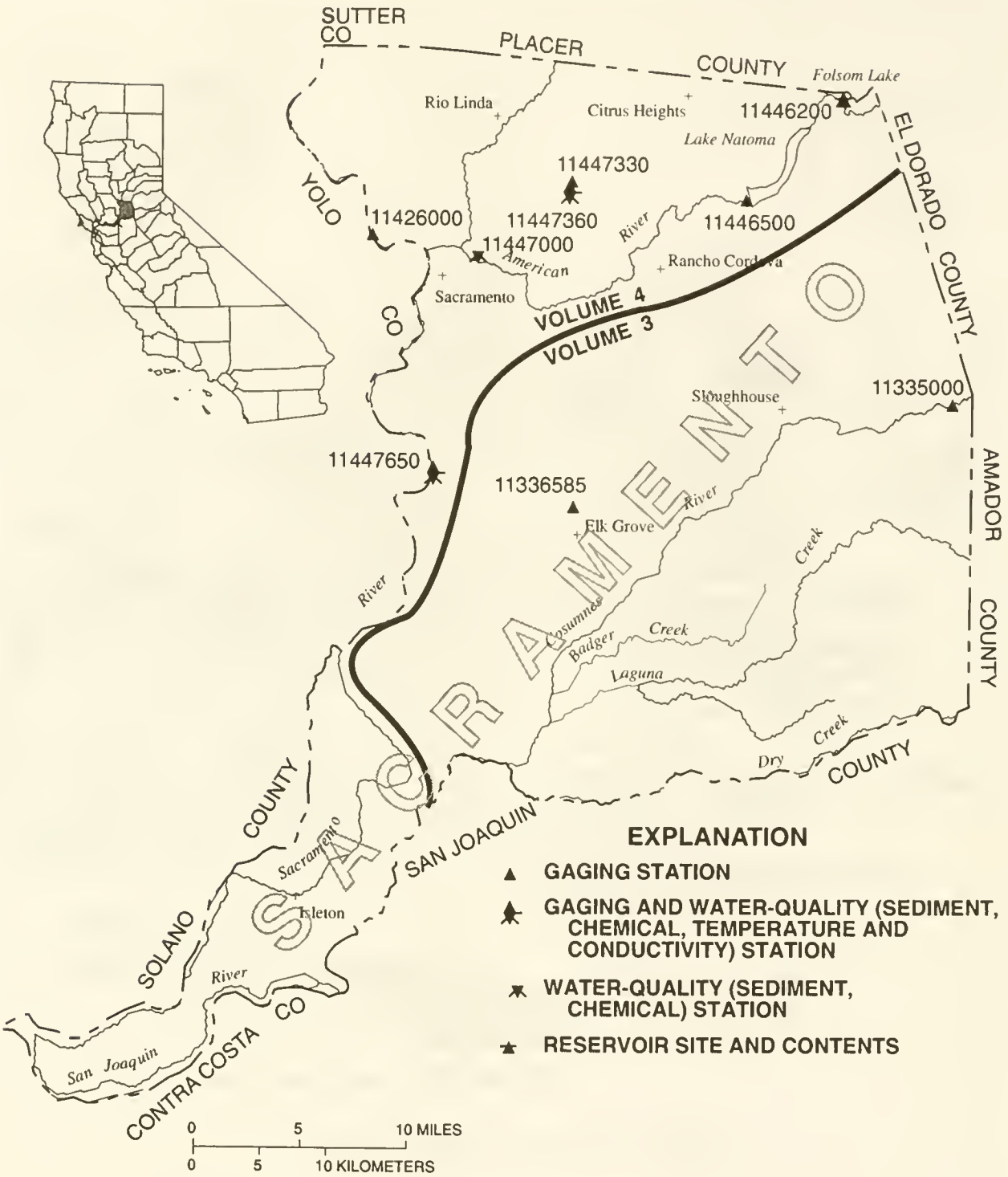

Figure 15. Location of discharge and water-quality stations in Sacramento County. (NOTE: Records for stations 11335000 and 11336585 published in volume 3.)

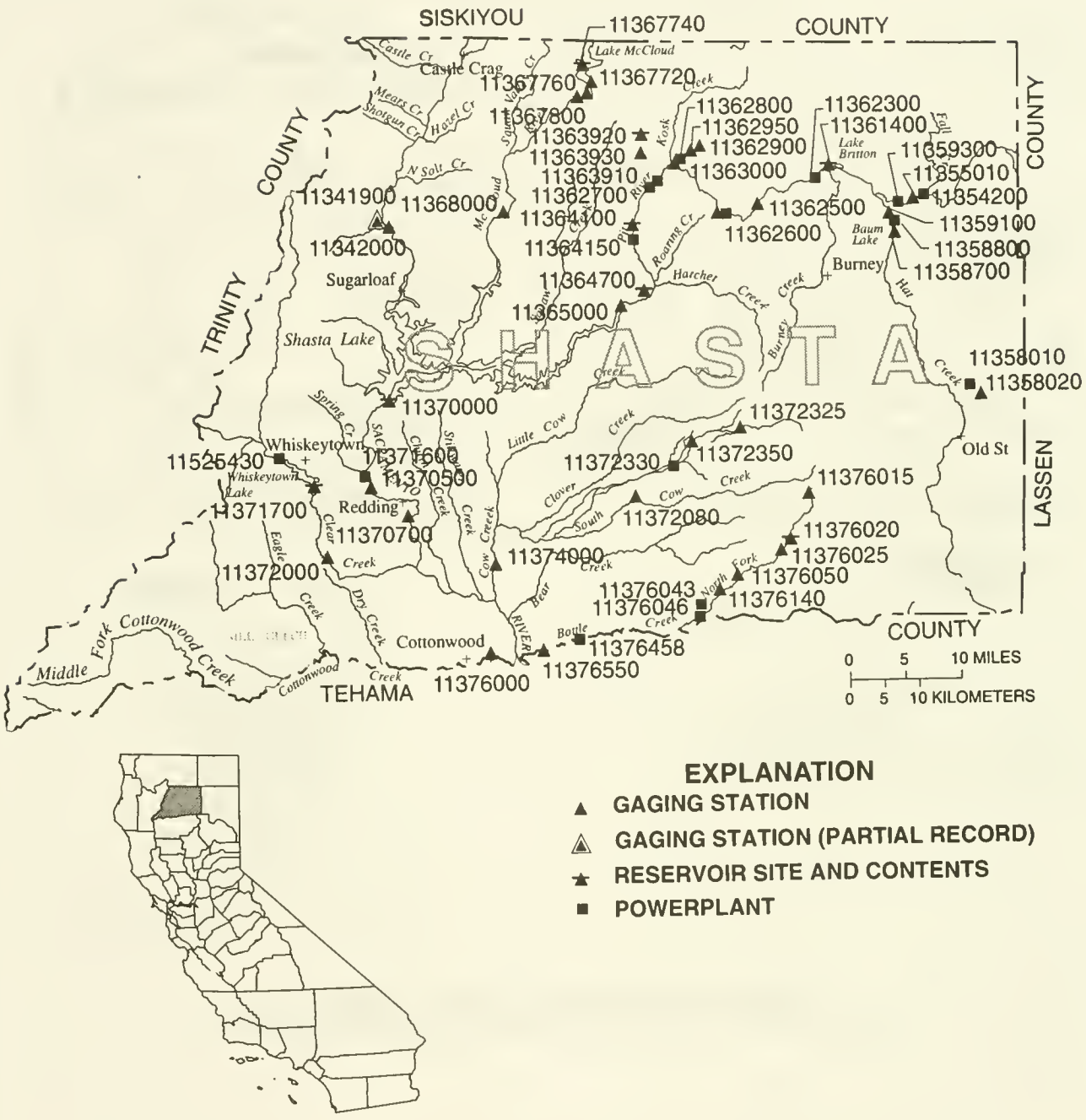

Figure 16. Location of discharge stations in Shasta County.

Figure 17. Location of discharge stations in Sierra County.
(NOTE: Records for stations 10341950 through 10344300 published in volume 3.)

Figure 18. Location of discharge stations in Siskiyou County.
(NOTE: Records for stations 11511400 through 11522500 published in volume 2.)

Figure 19. Location of discharge station in Solano County.

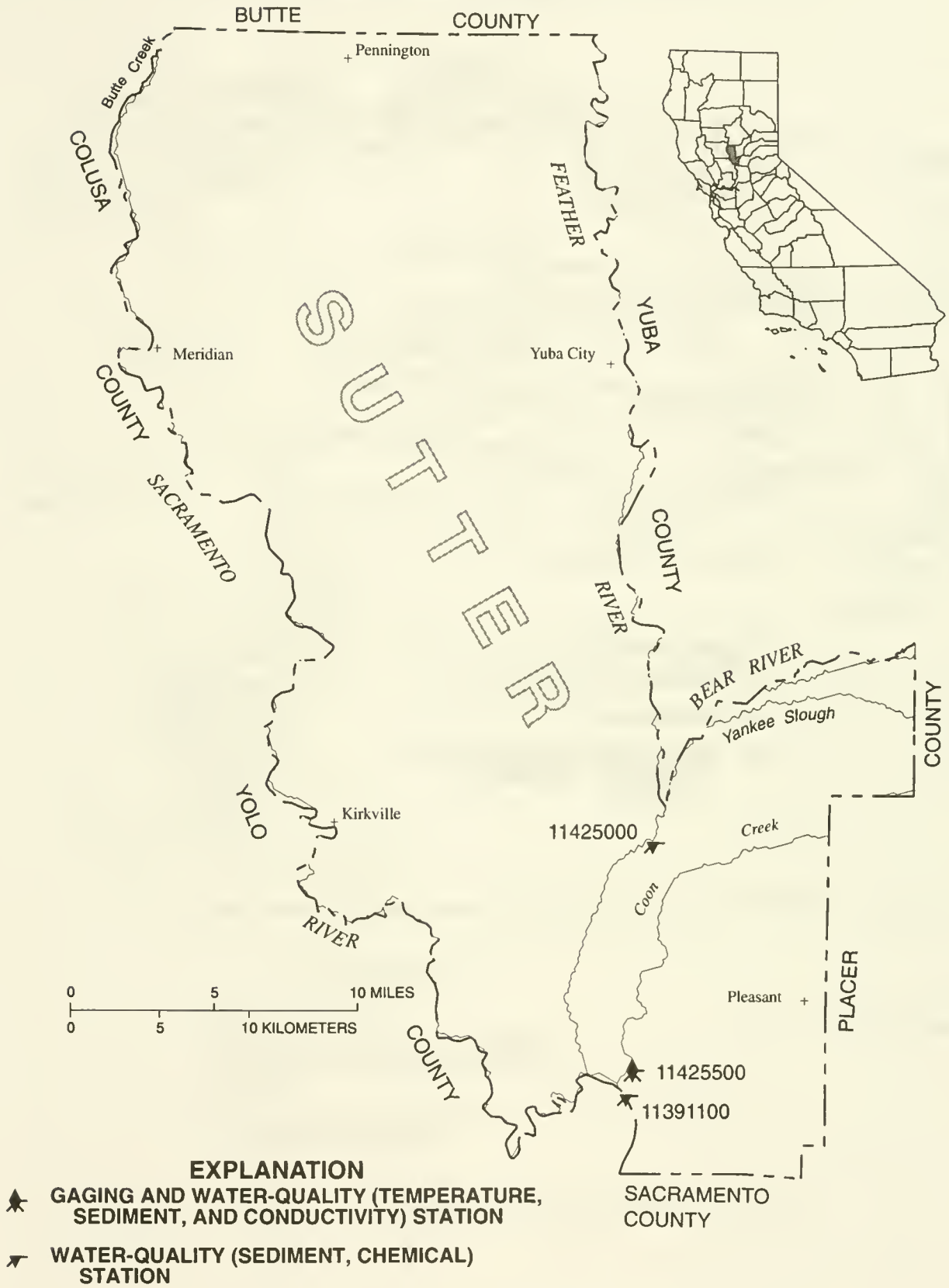

Figure 20. Location of discharge and water-quality stations in Sutter County.

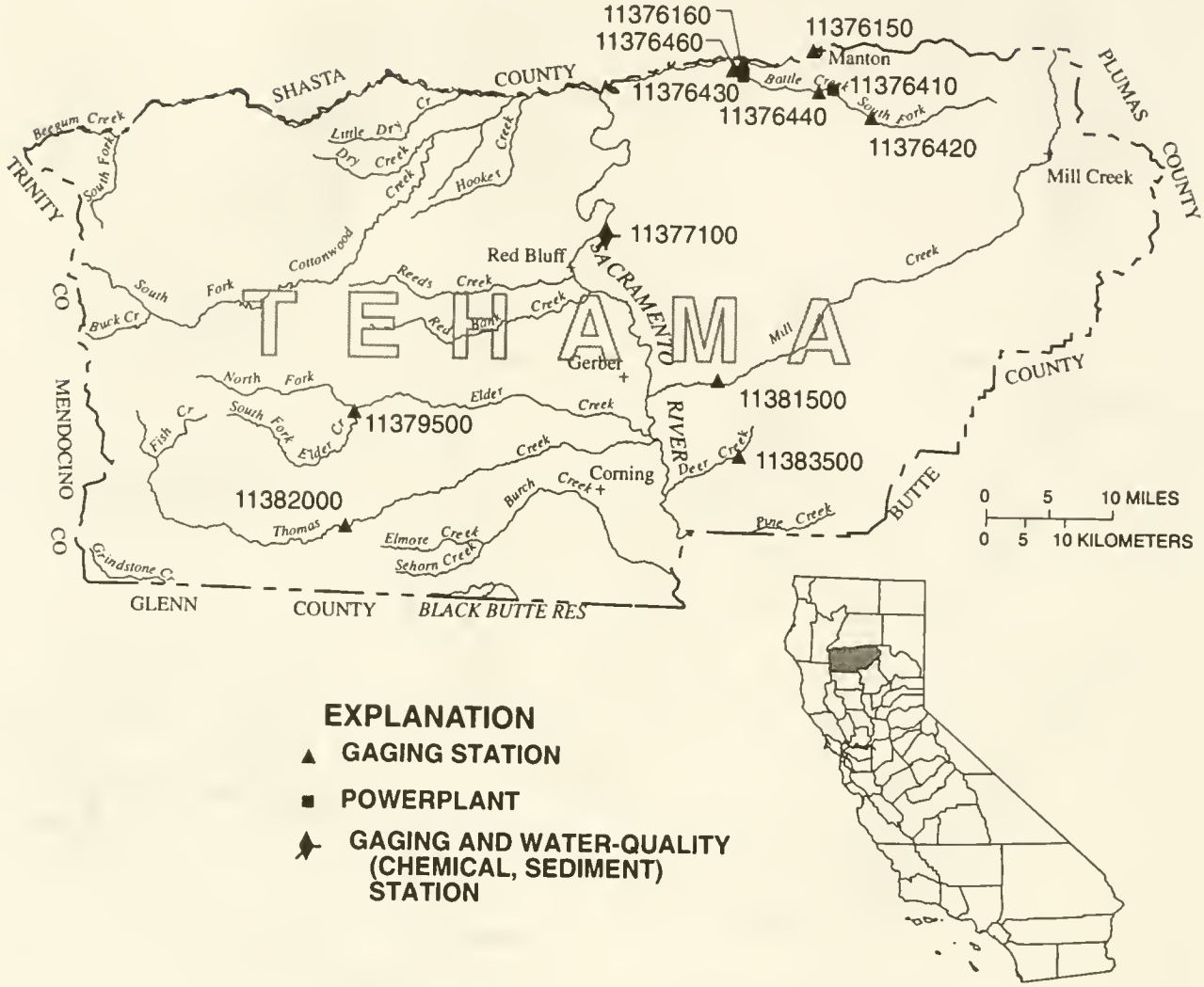

Figure 21. Location of discharge and water-quality stations in Tehama County.

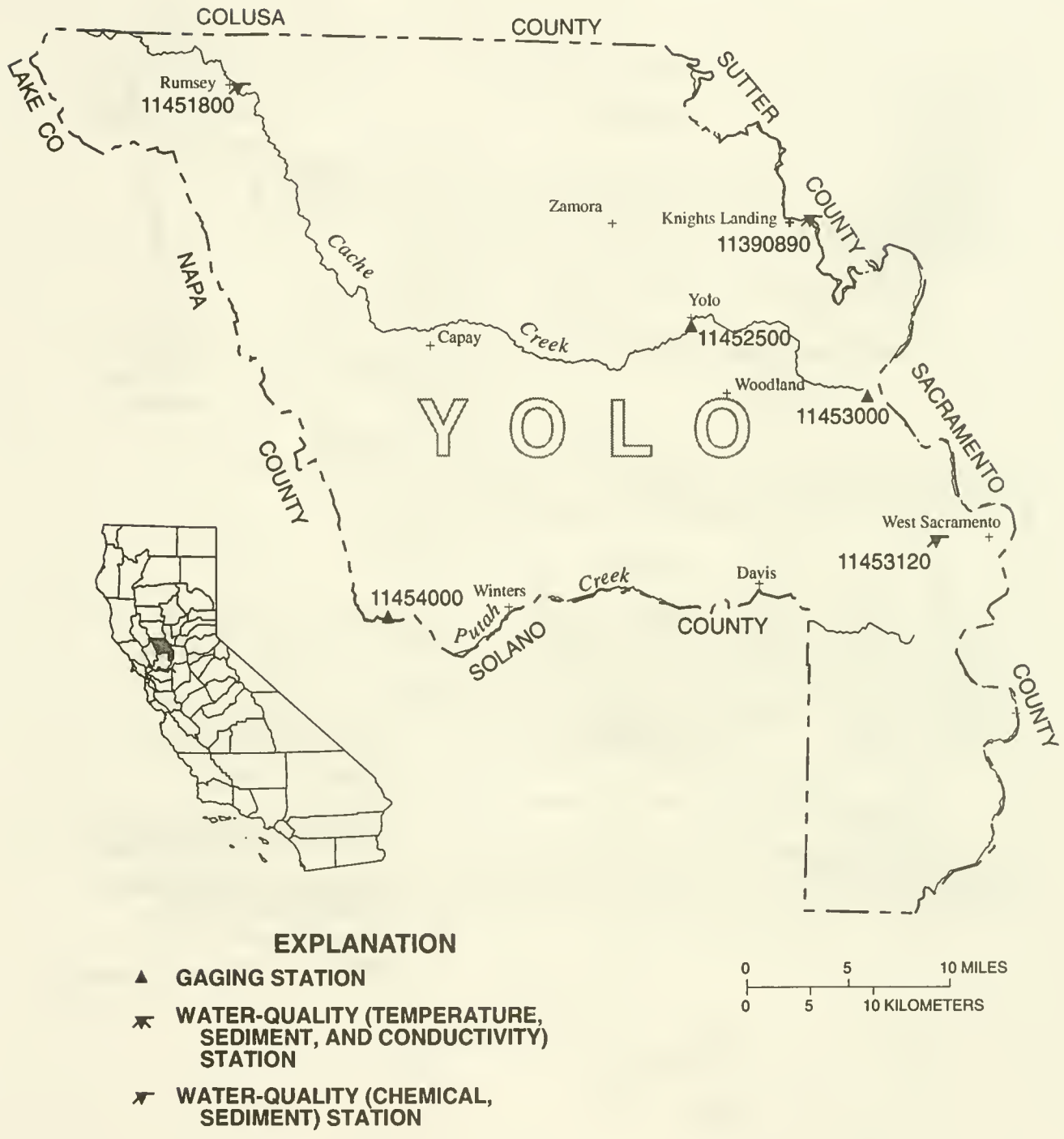

Figure 22. Location of discharge and water-quality stations in Yolo County.

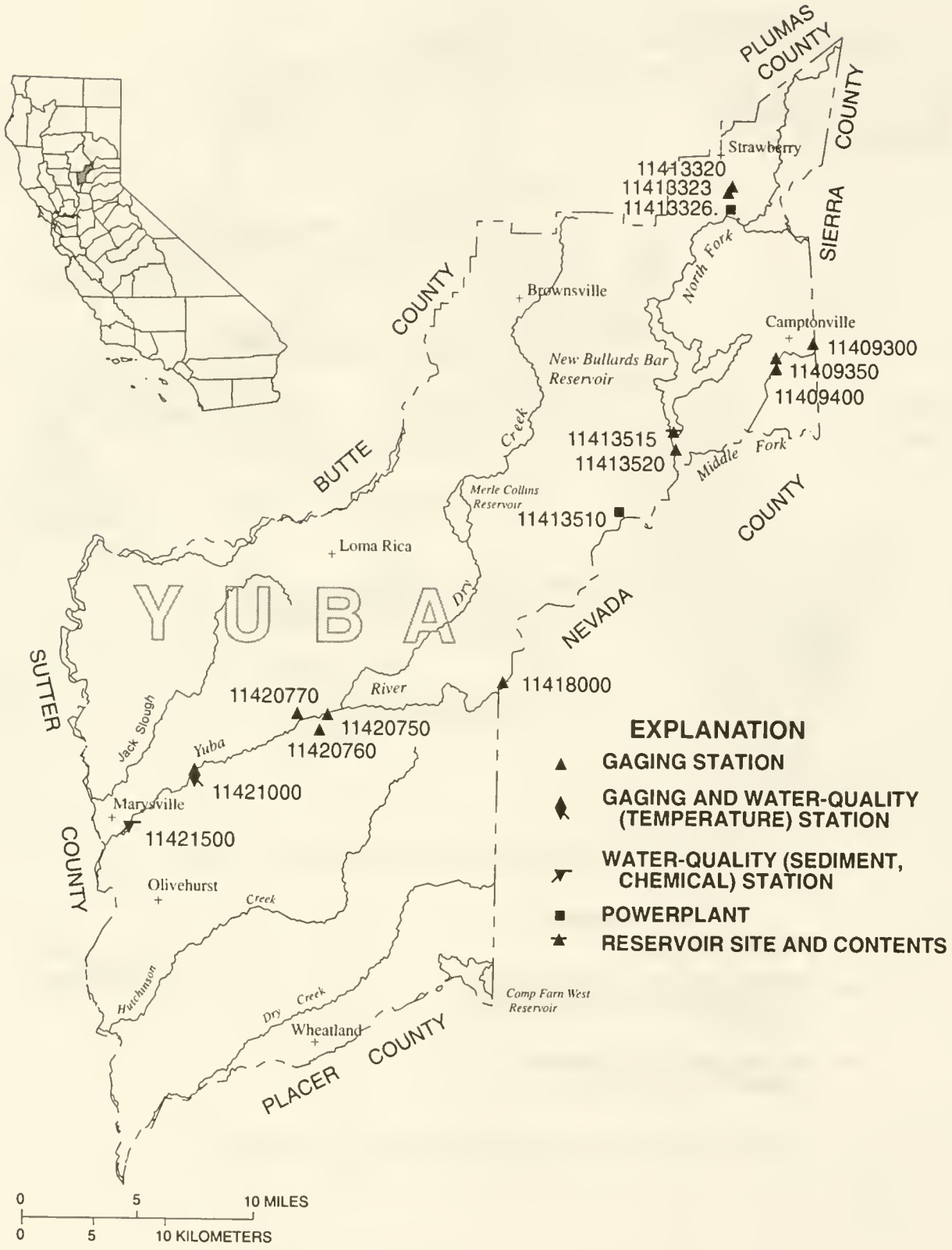

Figure 23. Location of discharge and water-quality stations in Yuba County.

SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
e	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptable range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
ND	Not detected.
&	Biological organism estimated as dominant.
*	Instantaneous streamflow at the time of cross-sectional measurements.
**	Partial sampled width.
1	Laboratory value.
2	Laboratory fixed-end point titration.
A	Samples collected by another agency.
N	Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.
V	Analyte was detected in both the environmental sample and the associated blanks.

Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Change in National Trends Network procedures

NOTE: Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

SACRAMENTO RIVER BASIN

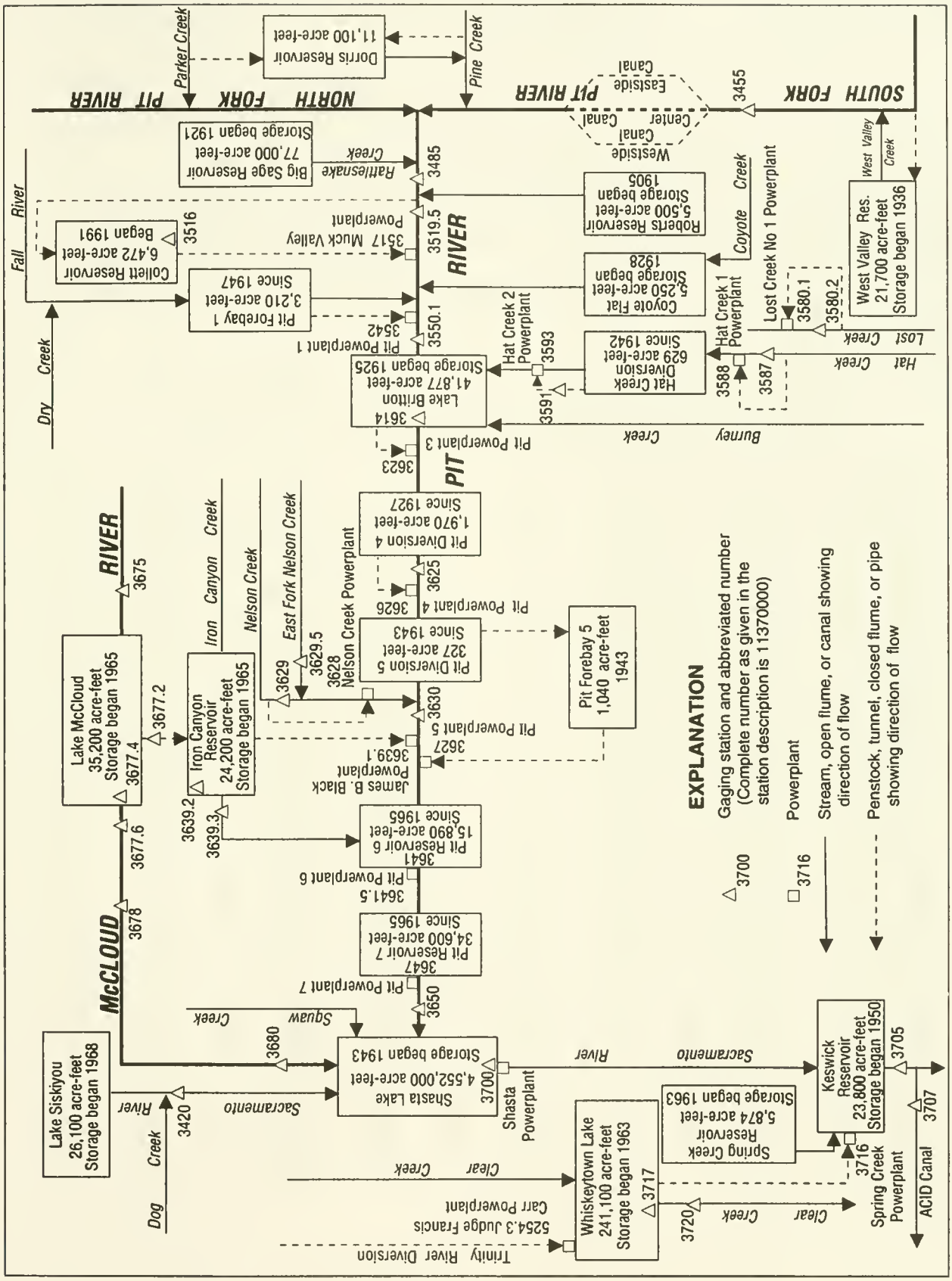

Figure 24. Diversions and storage in Pit and McCloud River basins.

11342000 SACRAMENTO RIVER AT DELTA, CA

LOCATION.--Lat 40°56'23", long 122°24'58", in SW 1/4 NW 1/4 sec.35, T.36 N., R.5 W, Shasta County, Hydrologic Unit 18020005, U.S. Bureau of Reclamation property, on left bank 0.2 mi downstream from Dog Creek, 0.6 mi southeast of Delta, 2.8 mi south of Lamoine, and 29 mi downstream from Lake Siskiyou.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--October 1944 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1951-81.
WATER TEMPERATURE: Water years 1951, 1954-57, 1963-79.

REVISED RECORDS.--WSP 1395: 1951(M). WDR-CA-94-4: 1993(P).

GAGE.--Water-stage recorder. Datum of gage is 1,075.00 ft above sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Records excellent. Some regulation by Lake Siskiyou, capacity, 26,100 acre-ft, since December 1968. Some minor diversions for irrigation upstream from station. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft^3/s, Jan. 16, 1974, gage height, 27.20 ft in gage well, 28.7 ft from floodmarks, from rating curve extended above 19,000 ft^3/s on basis of slope-area measurements at gage height 19.50 ft, and of peak flow; minimum daily, 117 ft^3/s, Aug. 5, 6, 12-15, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0445	30,300	16.30	Jan. 26	1145	9,450	10.80
Jan. 1	0030	62,300	25.21				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	285	534	45700	3020	808	800	790	378	e390	225	250
2	245	276	480	19900	2630	1050	760	751	372	327	223	248
3	244	272	466	10200	2340	883	733	721	547	308	220	246
4	244	271	541	6630	2140	825	719	707	956	287	218	244
5	244	266	908	4990	1940	774	703	685	538	278	217	241
6	242	263	752	3940	1780	746	685	674	459	273	215	241
7	239	262	2610	3340	1670	726	664	654	426	269	222	242
8	236	261	11500	2910	1570	700	650	643	401	266	225	239
9	236	259	23300	2630	1490	679	642	636	397	263	227	240
10	236	259	21800	2430	1440	665	622	640	388	263	229	245
11	237	259	8590	2230	1360	664	611	638	427	259	230	241
12	241	259	5710	2120	1280	656	603	618	382	258	231	232
13	244	263	4400	1910	1210	643	601	665	386	256	231	230
14	241	260	3140	1570	1160	636	603	565	383	253	229	297
15	240	259	2480	1450	1120	644	602	580	349	251	226	314
16	238	260	2070	1410	1100	749	624	554	336	249	227	283
17	239	317	1790	1360	1130	905	656	531	323	247	226	278
18	255	1130	1570	1290	1070	865	867	517	325	246	224	284
19	259	4470	1420	1230	1060	930	1510	494	316	243	223	270
20	252	2570	1320	1200	1020	927	1900	471	302	241	357	254
21	249	1810	1260	1350	985	980	1740	454	297	239	298	264
22	250	1990	1250	1330	977	919	1550	435	296	237	255	260
23	256	1380	1200	1210	912	1040	1640	458	293	235	249	242
24	276	1030	1170	1170	883	967	1420	492	289	230	266	236
25	277	872	1350	1650	869	1050	1150	445	285	233	253	235
26	266	739	1360	7250	850	1020	1050	419	280	232	251	232
27	256	651	2210	5930	857	1040	1020	414	278	230	256	230
28	254	605	4080	5940	848	978	972	409	277	228	253	228
29	464	561	14200	4820	---	904	918	411	280	229	248	226
30	384	513	19300	3750	---	874	848	398	e360	234	250	224
31	304	---	36100	3210	---	849	---	385	---	228	254	---
TOTAL	8095	22872	178861	156050	38711	26096	27863	17254	11326	7982	7458	7496
MEAN	261	762	5770	5034	1383	842	929	557	378	257	241	250
MAX	464	4470	36100	45700	3020	1050	1900	790	956	390	357	314
MIN	236	259	466	1170	848	636	601	385	277	228	215	224
AC-FT	16060	45370	354800	309500	76780	51760	55270	34220	22470	15830	14790	14870

e Estimated.

11342000 SACRAMENTO RIVER AT DELTA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	358	781	1368	1840	2212	2210	1979	1648	771	328	232	231
MAX	1837	6075	5770	7162	9557	7957	4264	4216	3090	1142	462	514
(WY)	1951	1974	1997	1995	1958	1983	1963	1983	1983	1983	1983	1957
MIN	150	187	197	214	226	243	264	410	229	145	122	154
(WY)	1945	1992	1977	1991	1977	1977	1977	1977	1977	1977	1977	1991

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1945 - 1997	
ANNUAL TOTAL	589977		510064			
ANNUAL MEAN	1612		1397		1158	
HIGHEST ANNUAL MEAN					2715	1983
LOWEST ANNUAL MEAN					228	1977
HIGHEST DAILY MEAN	36100	Dec 31	45700	Jan 1	53900	Jan 16 1974
LOWEST DAILY MEAN	229	Sep 5	215	Aug 6	117	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	238	Oct 6	220	Aug 1	117	Aug 11 1977
INSTANTANEOUS PEAK FLOW			62300	Jan 1	69800	Jan 16 1974
INSTANTANEOUS PEAK STAGE			25.21	Jan 1	27.20	Jan 16 1974
ANNUAL RUNOFF (AC-FT)	1170000		1012000		838700	
10 PERCENT EXCEEDS	3070		2170		2580	
50 PERCENT EXCEEDS	732		513		520	
90 PERCENT EXCEEDS	250		236		198	

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA

LOCATION.--Lat 41°13'51", long 120°26'10", in NE 1/4 SE 1/4 sec.11, T.39 N., R.13 E., Modoc County, Hydrologic Unit 18020002, on left bank 250 ft downstream from highway bridge, 1.4 mi downstream from West Valley Creek, and 3.5 mi east of Likely.

DRAINAGE AREA.--247 mi^2.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1951-79.
WATER TEMPERATURE: Water years 1965-79.
SEDIMENT DATA: Water years 1957-61, 1967-70.

REVISED RECORDS.--WSP 1931: Drainage area, 1932(M), 1938(M), 1952(M). WDR CA-88-4: 1983(M).

GAGE.--Water-stage recorder. Datum of gage is 4,507.74 ft above sea level. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

REMARKS.--Records fair. Considerable regulation by West Valley Reservoir on West Valley Creek beginning in May 1937, usable capacity, 21,700 acre-ft. Diversions for irrigation of about 3,800 acres upstream from station. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,620 ft^3/s, June 2, 1971, gage height, 6.05 ft; minimum, 0.2 ft^3/s, Feb. 3, 1941.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	58	33	164	85	23	80	308	145	167	180	98
2	48	46	26	273	58	23	70	287	138	193	161	130
3	48	34	24	e330	44	22	70	273	131	208	151	153
4	48	19	21	197	41	23	71	262	146	206	151	149
5	49	18	55	147	38	23	67	256	153	175	164	144
6	50	16	37	121	30	25	66	253	138	154	169	143
7	51	17	33	102	33	23	63	251	128	151	179	142
8	50	16	57	90	34	22	60	252	129	170	195	120
9	48	17	40	81	31	20	69	255	142	176	194	103
10	49	17	44	73	38	20	91	255	151	176	207	93
11	51	18	46	67	40	22	84	261	143	173	212	86
12	58	18	49	63	36	21	82	270	164	170	210	85
13	58	20	36	64	29	20	83	273	160	168	208	80
14	60	21	26	132	29	20	94	270	148	181	210	81
15	64	21	37	179	27	23	106	262	135	188	207	75
16	61	21	32	125	27	31	123	253	125	188	204	69
17	61	24	23	72	28	32	136	243	118	188	196	66
18	62	44	27	48	26	28	155	233	110	188	200	62
19	66	48	30	42	26	30	184	225	95	176	193	49
20	64	41	24	38	24	33	208	215	91	164	191	49
21	63	33	21	36	23	48	250	200	85	162	172	51
22	68	53	21	37	23	53	288	191	82	172	160	49
23	73	50	19	29	22	60	319	194	82	183	161	53
24	93	36	19	25	20	72	334	205	84	180	163	52
25	96	35	19	31	21	72	321	199	77	184	146	48
26	84	27	53	62	23	81	310	179	73	182	138	49
27	81	24	71	88	23	97	310	166	71	184	117	49
28	80	27	65	105	24	98	320	157	77	185	100	50
29	78	25	70	92	---	91	328	156	107	191	97	51
30	75	24	62	71	---	87	320	149	124	188	97	56
31	80	---	95	68	---	87	---	144	---	186	97	---
TOTAL	1965	868	1215	3052	903	1330	5062	7097	3552	5557	5230	2485
MEAN	63.4	28.9	39.2	98.5	32.3	42.9	169	229	118	179	169	82.8
MAX	96	58	95	330	85	98	334	308	164	208	212	153
MIN	48	16	19	25	20	20	60	144	71	151	97	48
AC-FT	3900	1720	2410	6050	1790	2640	10040	14080	7050	11020	10370	4930

e Estimated.

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.6	28.1	28.8	31.2	35.5	48.9	110	231	173	90.4	115	56.8
MAX	63.4	57.8	107	98.5	101	219	385	570	610	238	236	159
(WY)	1997	1985	1965	1997	1965	1972	1952	1984	1971	1995	1995	1975
MIN	15.7	5.17	3.28	5.99	4.07	4.63	16.9	25.7	12.1	7.70	9.97	10.5
(WY)	1932	1980	1980	1941	1978	1977	1991	1931	1931	1931	1934	1931

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1929 - 1997	
ANNUAL TOTAL	51704		38316			
ANNUAL MEAN	141		105		82.0	
HIGHEST ANNUAL MEAN					183	1984
LOWEST ANNUAL MEAN					27.3	1931
HIGHEST DAILY MEAN	584	May 19	334	Apr 24	1220	Jun 2 1971
LOWEST DAILY MEAN	16	Nov 6	16	Nov 6	.80	Mar 19 1940
ANNUAL SEVEN-DAY MINIMUM	17	Nov 5	17	Nov 5	1.1	Feb 3 1941
INSTANTANEOUS PEAK FLOW			426	Jan 3	1620	Jun 2 1971
INSTANTANEOUS PEAK STAGE			4.08	Jan 3	6.05	Jun 2 1971
ANNUAL RUNOFF (AC-FT)	102600		76000		59390	
10 PERCENT EXCEEDS	307		208		188	
50 PERCENT EXCEEDS	102		80		43	
90 PERCENT EXCEEDS	34		23		12	

11348500 PIT RIVER NEAR CANBY, CA

LOCATION.--Lat 41°24'22", long 120°55'36", in NW 1/4 SW 1/4 sec.10, T.41 N., R.9 E., Modoc County, Hydrologic Unit 18020002, on right bank at lower end of Warm Spring Valley, 3.9 mi southwest of Canby.

DRAINAGE AREA.--1,431 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--January 1904 to December 1905, May 1929 to current year (1929-31 incomplete).
CHEMICAL DATA: Water years 1951-79.
WATER TEMPERATURE: Water years 1965-79.
SEDIMENT DATA: Water years 1957-61, 1967-70.

REVISED RECORDS.--WSP 1445: 1904, 1935(M), 1936, 1937(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,266.0 ft above sea level. January 1904 to December 1905, nonrecording gage and May 6, 1929, to Sept. 30, 1931, water-stage recorder, at site 100 ft upstream at different datum.

REMARKS.--Records good. Low flow regulated by many small reservoirs, total capacity about 144,000 acre-ft. Diversions for irrigation of about 39,000 acres upstream from station. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,000 ft^3/s, Mar. 8, 1904, gage height, 15.0 ft, site and datum then in use; minimum daily, 0.1 ft^3/s, several days in April 1934 and August 1935.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 13	0530	946	4.70	Feb. 1	2330	2,690	7.33
Jan. 2	2330	7,280	11.82	Apr. 24	2400	899	4.71

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	153	125	4490	2500	302	436	677	163	41	101	72
2	50	152	127	6650	2630	311	404	612	126	41	110	65
3	64	146	130	6620	2100	332	371	553	134	31	135	83
4	69	148	124	5350	1380	334	349	519	147	23	110	118
5	64	136	128	4080	952	308	311	476	152	19	91	90
6	62	110	153	3070	747	320	257	411	179	17	97	66
7	73	97	204	2270	629	374	262	346	158	16	82	52
8	53	90	203	1640	581	401	277	384	136	17	63	52
9	59	92	241	1030	551	370	286	374	109	24	48	45
10	61	87	397	738	553	328	290	310	97	21	37	46
11	55	90	507	638	573	314	276	333	133	19	29	58
12	66	82	789	553	549	315	280	304	234	18	18	60
13	67	72	880	337	476	300	253	209	333	19	21	54
14	58	68	580	299	418	285	237	97	391	27	36	57
15	67	71	365	373	394	269	240	214	421	52	47	80
16	72	84	254	330	376	288	225	247	383	123	74	105
17	76	95	222	363	393	364	221	250	310	100	101	130
18	76	111	178	393	396	386	203	263	241	85	82	125
19	83	150	161	393	360	357	261	229	181	66	78	127
20	81	212	144	362	354	342	377	191	155	99	90	112
21	84	195	143	341	348	359	514	160	110	112	104	77
22	86	182	138	306	331	423	685	129	89	120	94	58
23	94	176	130	265	313	479	810	155	64	79	99	53
24	94	182	133	244	288	486	879	187	42	45	101	57
25	112	173	131	311	266	481	884	236	49	23	80	58
26	226	158	181	446	271	468	795	329	40	22	45	55
27	232	149	520	724	289	474	693	298	45	18	37	53
28	190	135	836	1260	306	488	654	287	43	14	79	49
29	172	127	1000	1870	---	475	680	289	39	13	73	42
30	153	139	1280	2320	---	428	705	233	39	16	67	32
31	149	---	2480	2310	---	433	---	203	---	45	73	---
TOTAL	2889	3862	12884	50376	19324	11594	13115	9505	4743	1365	2302	2131
MEAN	93.2	129	416	1625	690	374	437	307	158	44.0	74.3	71.0
MAX	232	212	2480	6650	2630	488	884	677	421	123	135	130
MIN	41	68	124	244	266	269	203	97	39	13	18	32
AC-FT	5730	7660	25560	99920	38330	23000	26010	18850	9410	2710	4570	4230

11348500 PIT RIVER NEAR CANBY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	77.7	103	193	315	432	552	474	454	264	65.8	43.6	63.2
MAX	1068	418	1225	1684	2249	1749	2774	2176	1746	312	125	151
(WY)	1963	1982	1938	1970	1986	1972	1952	1995	1971	1971	1983	1984
MIN	.26	12.7	31.0	14.7	19.2	5.83	1.29	2.32	3.53	4.62	.22	.28
(WY)	1935	1935	1937	1937	1937	1934	1934	1992	1992	1931	1934	1934

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1904 - 1997	
ANNUAL TOTAL	173204		134090			
ANNUAL MEAN	473		367		251	
HIGHEST ANNUAL MEAN					676	1971
LOWEST ANNUAL MEAN					22.4	1934
HIGHEST DAILY MEAN	3800	Feb 21	6650	Jan 2	8580	Feb 19 1986
LOWEST DAILY MEAN	27	Jul 9	13	Jul 29	.10	Apr 18 1934
ANNUAL SEVEN-DAY MINIMUM	47	Sep 8	19	Jul 6	.13	Apr 17 1934
INSTANTANEOUS PEAK FLOW			7280	Jan 2	13000	Mar 8 1904
INSTANTANEOUS PEAK STAGE			11.82	Jan 2	15.00	Mar 8 1904
ANNUAL RUNOFF (AC-FT)	343600		266000		181900	
10 PERCENT EXCEEDS	1200		663		644	
50 PERCENT EXCEEDS	206		173		94	
90 PERCENT EXCEEDS	59		45		16	

11351600 COLLETT RESERVOIR NEAR LITTLE VALLEY, CA

LOCATION.--Lat 40°58'00", long 121°13'00", unsurveyed, Lassen County, Hydrologic Unit 18020003, on right bank, 1.9 mi east of Muck Valley powerplant, 5.5 mi northwest of Little Valley, and 9.1 mi southwest of Nubieber.

PERIOD OF RECORD.--October 1991 to September 1992. October 1993 to current year.

GAGE.-- Water-stage recorder. Datum of gage is sea level.

REMARKS.--Lake is formed by earth and rockfill dam. Storage began December 31, 1990. Water is diverted from the Pit River through a tunnel to the reservoir. Operating pool from elevation 4,030 ft, capacity 155 acre-ft, to 4,065 ft, capacity 7,693 acre-ft. Crest of spillway is at elevation 4,065 ft. Reservoir is used for power generation. Figures given represent total contents. Data not published below the minimum operating level at elevation 4,030 ft, capacity 155 acre-ft. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were provided by Malacha Hydro Limited Partnership, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Malacha Hydro Limited Partnership, dated November 1991)

4,030	155	4,040	1,899
4,032	395	4,050	4,052
4,035	931	4,065	7,693

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e627	909	e288	2127	3686	3493	3406	7377	7539	5211	e315	e255
2	e627	941	e288	2324	3676	3484	3381	7330	7501	4920	e315	e255
3	e596	957	e288	2519	3662	3474	3355	7417	7542	4630	e315	e255
4	e596	494	e288	2687	3654	3462	3366	7506	7417	4625	e299	e255
5	e596	354	e288	2852	3644	3450	3371	7397	7313	4616	e285	e255
6	e596	318	e288	2999	3631	3437	3503	7171	7293	4675	e277	e255
7	e596	e288	e288	3155	3628	3426	3565	6569	7566	4388	e255	e255
8	e578	e288	e288	3341	3618	3415	3579	6406	7582	4095	e255	e255
9	e547	e288	e288	3498	3593	3401	3584	6492	7506	3804	e255	e255
10	e469	e288	407	3624	3585	3391	3590	6613	7331	3510	e255	e255
11	e403	e288	617	3662	3572	3440	3668	6738	7262	3219	e255	e255
12	e503	e288	825	3650	3562	3430	4282	6750	7039	3213	e255	e255
13	e511	e288	1027	3621	3550	3430	5056	6774	6775	3209	e255	e255
14	545	e288	1242	3715	3540	3417	5192	6886	6947	2924	e255	e255
15	728	e288	1429	3645	3590	3398	5365	6721	7308	2636	e255	e255
16	591	e288	1615	3803	3582	3401	5705	6463	7276	2339	e255	e255
17	e491	e288	1664	3901	3580	3388	5992	6453	7102	2142	e255	e259
18	e456	e288	1589	3886	3568	3375	6525	6443	7113	1945	e255	e259
19	e456	e288	1175	3872	3559	3361	6757	6181	7390	1942	e255	e259
20	456	e288	1052	3866	3549	3353	6889	6277	7158	1941	e255	e259
21	583	e288	1052	3840	3537	3341	6986	6460	7349	1739	e255	e259
22	664	e288	1056	3834	3528	3329	7092	6323	7383	1543	e255	e273
23	604	e288	1056	3900	3569	3319	7164	6083	7043	1344	e255	e313
24	e566	e288	1056	3864	3554	3497	7185	6118	6730	1141	e255	e351
25	575	e288	1056	3728	3537	3484	7072	6521	6425	941	e255	e351
26	579	e288	1069	3709	3526	3442	7021	6971	6120	941	e255	e351
27	633	e288	1136	3704	3518	3366	7080	6918	5819	941	e255	e351
28	804	e288	1320	3704	3505	3344	7176	6668	5819	720	e255	e367
29	1127	e288	1520	3701	---	3331	7274	6624	5819	504	e255	e367
30	1355	e288	1715	3692	---	3425	7369	6799	5505	401	e255	e367
31	1380	---	1907	3690	---	3425	---	7261	---	349	e255	---
MAX	1380	957	1907	3901	3686	3497	7369	7506	7582	5211	315	367
MIN	403	288	288	2127	3505	3319	3355	6083	5505	349	255	255
a	3340	8760	22180	34400	33580	36610	24080	14380	8060	5150	133	1240

e Estimated.

a Discharge, in acre-feet, for Muck Valley Powerplant (station 11351700), provided by Malacha Hydro Limited Partnership.

11351950 PIT RIVER BELOW DIVERSION TO MUCK VALLEY POWERPLANT, NEAR BIEBER, CA

LOCATION.--Lat 41°00'55", long 121°09'13", in NE 1/4 SW 1/4 sec.27, T.37 N., R.7 E., Lassen County, Hydrologic Unit 18020003, on right bank 1.7 mi upstream from North Gulch, 2.2 mi upstream from Spring Gulch, and 7.4 mi south of Bieber.

DRAINAGE AREA.--2,475 mi^2, excluding Goose Lake Basin.

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Acoustic velocity meter measures minimum bypass flow and water-stage recorder and Ogee weir for spillway. Elevation of gage is 4,120 ft above sea level, from topographic map.

REMARKS.--Flow at this station has two components which are combined for publication: low flow release (station 11351946) and flow over Ogee weir (station 11351948). Water is diverted upstream of weir through a tunnel to Collett Reservoir (station 11351600), for power generation. During powerplant operation, the minimum release is 50 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were provided by Malacha Hydro Limited Partnership, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 16,800 ft^3/s, Jan. 3, 1997; no flow many days during 1995 and 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	53	53	5430	3840	302	398	507	52	3.0	.00	1.0
2	31	53	53	9600	4350	316	390	498	39	2.0	.00	1.0
3	36	53	53	16800	4610	398	344	382	55	1.0	.00	1.0
4	31	53	53	15700	3940	390	275	316	50	19	1.0	2.0
5	18	53	53	11400	3000	374	191	324	52	43	.00	2.0
6	21	53	53	7560	2160	316	54	54	54	40	.00	4.0
7	32	53	53	5900	1600	316	52	53	53	28	.00	8.0
8	48	53	54	4400	1270	367	52	53	52	4.0	.00	20
9	53	53	53	3320	1100	390	52	53	51	2.0	e5.0	30
10	49	53	88	2410	1050	344	52	53	53	1.0	e10	23
11	39	52	720	e1690	1080	288	53	53	53	1.0	e15	34
12	51	53	995	e1280	1150	237	53	53	53	1.0	e15	e23
13	51	53	1220	e873	1070	203	53	53	53	1.0	e10	8.0
14	53	52	1340	e560	936	103	53	53	53	1.0	e5.0	5.0
15	53	52	887	e497	764	54	53	44	52	1.0	2.0	9.0
16	53	53	397	415	690	54	53	12	51	.00	2.0	12
17	23	53	53	414	797	283	53	12	53	.00	2.0	34
18	39	e53	e48	455	983	464	53	15	247	.00	2.0	32
19	45	53	54	473	996	517	53	15	e53	.00	2.0	26
20	41	53	53	481	911	473	53	35	53	.00	1.0	21
21	52	53	53	422	742	439	54	53	52	.00	.00	25
22	53	53	53	413	620	439	330	51	43	.00	.00	38
23	53	53	53	1020	516	473	489	39	7.0	.00	.00	e54
24	51	53	53	355	406	535	638	39	4.0	.00	.00	48
25	53	53	53	362	337	516	731	53	6.0	.00	1.0	17
26	41	53	54	637	276	498	720	53	16	.00	2.0	10
27	48	53	54	1020	276	472	638	47	16	.00	2.0	32
28	53	53	618	1250	295	447	534	31	22	.00	2.0	37
29	53	53	1390	2070	---	455	463	53	10	.00	1.0	18
30	53	53	1920	2960	---	455	455	53	4.0	.00	1.0	18
31	53	---	3140	3490	---	422	---	53	---	.00	1.0	---
TOTAL	1373	1587	13774	103657	39765	11340	7442	3163	1412.0	148.00	82.00	593.0
MEAN	44.3	52.9	444	3344	1420	366	248	102	47.1	4.77	2.65	19.8
MAX	53	53	3140	16800	4610	535	731	507	247	43	15	54
MIN	18	52	48	355	276	54	52	12	4.0	.00	.00	1.0
AC-FT	2720	3150	27320	205600	78870	22490	14760	6270	2800	294	163	1180

e Estimated.

11351950 PIT RIVER BELOW DIVERSION TO MUCK VALLEY POWERPLANT, NEAR BIEBER, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.3	52.2	208	1776	1823	1819	958	1468	204	25.0	4.30	24.5
MAX	44.3	53.5	444	3344	3089	3316	1677	3679	459	46.1	7.03	27.2
(WY)	1997	1996	1997	1997	1996	1995	1995	1995	1995	1995	1996	1996
MIN	21.5	50.3	54.0	336	916	366	248	102	47.1	4.77	2.65	19.8
(WY)	1995	1995	1995	1996	1995	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1995 - 1997	
ANNUAL TOTAL	224511.00		184336.00			
ANNUAL MEAN	613		505		696	
HIGHEST ANNUAL MEAN					997	1995
LOWEST ANNUAL MEAN					505	1997
HIGHEST DAILY MEAN	6810	Feb 22	16800	Jan 3	16800	Jan 3 1997
LOWEST DAILY MEAN	.00	Jun 23	.00	Jul 16	.00	Oct 1 1994
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 12	.00	Jul 16	.00	Aug 3 1995
ANNUAL RUNOFF (AC-FT)	445300		365600		504200	
10 PERCENT EXCEEDS	1810		1010		1990	
50 PERCENT EXCEEDS	53		53		53	
90 PERCENT EXCEEDS	8.0		1.0		3.0	

11354200 PIT NO. 1 POWERPLANT NEAR FALL RIVER MILLS, CA

LOCATION.--Lat 40°59'28", long 121°29'49", in SE 1/4 NE 1/4 sec.10, T.37 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank of Pit River 2.3 mi downstream from Pit River Falls and 3.2 mi southwest of Fall River Mills.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1973-86 available in files of the U.S. Geological Survey. Fragmentary record for water years 1922-72 available in files of the Pacific Gas & Electric Co.

GAGE.--Discharge computed from powerplant output.

REMARKS.--Water is diverted from Fall River at Pit No. 1 Forebay at NW 1/4 SW 1/4 sec.25, T.37 N., R.4 E., through a tunnel to powerplant and then into Pit River. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,490 ft^3/s, Mar. 13, 1995; no flow, Aug. 21, 1992, Feb. 9-13, 1994, Dec. 13, 1995.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	1200	1220	1210	2030	1160	1320	1470	1180	1280	1250	1220
2	1070	1200	1230	1130	1980	1180	1290	1330	1450	1270	1260	1240
3	1120	1200	1220	1230	1910	1350	1130	1320	1270	1260	1250	1180
4	1110	1200	1230	1220	1800	1290	1170	1350	1270	1260	1260	1260
5	1120	1200	1220	1200	1690	1350	1100	1380	1230	1260	1250	1260
6	1170	1200	1220	1200	1780	1300	1040	1390	1270	1260	1240	1260
7	1180	1200	1220	1200	1630	1330	1080	1290	1270	1260	1210	1260
8	1140	1200	1220	945	1620	1220	1050	1320	1270	1240	1210	1260
9	1190	1180	1220	1190	1560	1190	1160	1260	1270	1220	1180	1260
10	1180	1190	1220	1160	1560	1210	1170	1300	1270	1270	1110	1270
11	1170	1190	1200	1270	1580	1210	1200	1220	1270	1260	942	1150
12	1150	1210	1210	1320	1440	1100	1400	1180	1270	1240	1220	1260
13	1150	1220	1200	1390	1630	1350	1290	1320	1270	1220	1270	1260
14	1160	1220	1200	1340	1470	1250	1400	1250	1270	1220	1260	1260
15	1190	1220	1200	1520	1530	1170	1390	1230	1270	1240	1260	1250
16	1190	1210	1240	1370	1400	1240	1340	1280	1270	1260	1250	1260
17	1200	1210	1200	1440	1370	1340	1290	1260	1290	1240	1230	1260
18	1190	1140	1200	1310	1550	1360	1420	1180	1270	1230	1200	1260
19	1190	1210	1200	1410	1380	1050	1460	1210	1270	1240	1240	1260
20	1190	1220	1210	1410	1430	1330	1530	1220	1280	1240	1220	1260
21	1190	1220	1200	1400	1400	1590	1570	1200	1280	1220	1240	1260
22	1190	1220	1200	1710	1400	1290	1510	1290	1270	1240	1230	1260
23	1200	1220	1220	1610	1500	1290	1510	1360	1270	1040	1270	1260
24	1200	1220	1210	1500	1190	1300	1510	1300	1280	1270	1270	1260
25	1200	1220	1220	1460	1150	1210	1480	1160	397	1260	1220	1260
26	1200	1220	1170	1590	1360	1150	1440	1410	1280	1250	1220	1260
27	1200	1220	1220	1820	1380	1220	1460	1360	1280	1230	1270	1260
28	1200	1220	1220	1770	1320	1300	1360	1210	1280	1220	1260	1270
29	1200	1220	1220	2120	---	1100	1330	1290	1280	1240	1260	1260
30	1200	1220	267	2060	---	914	1340	1300	1280	1240	1260	1260
31	1200	---	1200	2050	---	1400	---	1170	---	1250	1250	---
TOTAL	36430	36220	36627	44555	43040	38744	39740	39810	37377	38430	38062	37560
MEAN	1175	1207	1182	1437	1537	1250	1325	1284	1246	1240	1228	1252
MAX	1200	1220	1240	2120	2030	1590	1570	1470	1450	1280	1270	1270
MIN	1070	1140	267	945	1150	914	1040	1160	397	1040	942	1150
AC-FT	72260	71840	72650	88370	85370	76850	78820	78960	74140	76230	75500	74500

11354200 PIT NO. 1 POWERPLANT NEAR FALL RIVER MILLS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1100	1117	1107	1169	1197	1393	1365	1270	1127	1050	1029	1063
MAX	1318	1283	1274	1437	1636	1972	1927	1847	1364	1240	1228	1252
(WY)	1987	1987	1987	1997	1996	1995	1995	1995	1995	1997	1997	1997
MIN	941	971	987	996	749	1053	1014	947	914	844	835	900
(WY)	1995	1995	1995	1992	1994	1992	1994	1992	1994	1992	1992	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1987 - 1997	
ANNUAL TOTAL	482450		466595			
ANNUAL MEAN	1318		1278		1165	
HIGHEST ANNUAL MEAN					1336	1995
LOWEST ANNUAL MEAN					956	1994
HIGHEST DAILY MEAN	2130	Feb 22	2120	Jan 29	2490	Mar 13 1995
LOWEST DAILY MEAN	267	Dec 30	267	Dec 30	.00	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	1070	Dec 25	1070	Dec 30	68	Feb 8 1994
ANNUAL RUNOFF (AC-FT)	956900		925500		844200	
10 PERCENT EXCEEDS	1660		1460		1430	
50 PERCENT EXCEEDS	1210		1250		1130	
90 PERCENT EXCEEDS	1130		1170		933	

11355010 PIT RIVER BELOW PIT NO. 1 POWERPLANT, NEAR FALL RIVER MILLS, CA

LOCATION.--Lat 40°59'00", long 121°30'39", in NE 1/4 NW 1/4 sec.15, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on left bank 0.9 mi downstream from Pit No. 1 Powerplant and 4 mi southwest of Fall River Mills.

DRAINAGE AREA.--3,761 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--August 1975 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,798.21 ft above sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--Records good. Low flow regulated by many small reservoirs (total usable reservoir capacity, 210,000 acre-ft) and Pit No. 1 Powerplant. Many diversions upstream from station for irrigation. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s, Feb. 20, 1986, gage height, 17.03 ft; minimum daily, 535 ft^3/s, Sept. 11, 1994.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1974 reached a stage of 14.8 ft, from floodmarks on right bank, discharge 22,600 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 4	1230	21,600	15.05				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1390	1680	1520	9430	e7000	2380	2630	2710	1350	1500	1360	1310
2	1200	1640	1530	11700	e7200	2410	2600	2600	1650	1510	1350	1330
3	1240	1490	1520	17100	e7300	2610	2400	2550	1540	1490	1340	1300
4	1240	1560	1510	20700	e7200	2570	2420	2450	1580	1480	1340	1360
5	1250	1660	1550	16600	e7050	2650	2280	2440	1560	1390	1340	1360
6	1290	1540	1610	12200	e6700	2530	2120	2430	1560	1360	1330	1370
7	1290	1530	1690	9690	e6300	2540	2100	1990	1540	1380	1290	1360
8	1300	1470	1710	7600	e5600	2510	2050	2080	1450	1460	1290	1360
9	1350	1430	1880	6000	e5200	2500	2130	2020	1490	1440	1240	1370
10	1370	1430	2200	4980	e5100	2490	2100	1930	1670	1500	1140	1380
11	1360	1420	3020	4070	e5500	2420	2150	1860	1790	1480	1070	1290
12	1330	1450	3250	3700	e5600	2300	2170	1730	1700	1440	1420	1390
13	1310	1470	3460	3440	e5200	2510	1900	1830	1690	1310	1380	1450
14	1300	1460	3560	2780	e4700	2380	2020	1660	1640	1300	1350	1400
15	1360	1450	3230	2680	e4100	2330	2130	1570	1540	1410	1350	1410
16	1470	1430	2540	2530	e3600	2400	2020	1640	1570	1480	1320	1390
17	1460	1450	2230	2580	e3500	2560	1870	1570	1640	1440	1300	1390
18	1380	1390	2060	2580	e3650	2730	2060	1410	1970	1390	1270	1390
19	1410	1490	2040	2670	e3600	2530	1970	1420	1780	1400	1310	1450
20	1350	1590	1950	2730	e3450	2770	2280	1510	1690	1330	1290	1490
21	1340	1990	1820	2720	e3400	2970	2420	1530	1640	1290	1320	1400
22	1420	1670	1780	2880	e3300	2700	2580	1630	1440	1360	1310	1390
23	1450	1820	1750	2490	e3150	2670	2770	1680	1430	1220	1350	1450
24	1470	1800	1740	2600	e3000	2680	2890	1660	1530	1440	1350	1430
25	1470	1720	1690	2630	e2900	2670	3010	1460	1120	1440	1290	1490
26	1490	1640	1750	2830	e2750	2580	3000	1650	1610	1420	1290	1400
27	1370	1590	2170	3440	2610	2660	2950	1580	1520	1320	1360	1380
28	1360	1550	2540	4050	2510	2640	2720	1540	1520	1290	1360	1370
29	1490	1540	3520	5350	---	2530	2610	1600	1420	1350	1360	1370
30	1500	1530	5050	e6400	---	2280	2570	1750	1410	1410	1350	1380
31	1510	---	7090	e6700	---	2670	---	1490	---	1370	1340	---
TOTAL	42520	46880	74960	187850	131170	79170	70920	56970	47040	43400	40760	41610
MEAN	1372	1563	2418	6060	4685	2554	2364	1838	1568	1400	1315	1387
MAX	1510	1990	7090	20700	7300	2970	3010	2710	1970	1510	1420	1490
MIN	1200	1390	1510	2490	2510	2280	1870	1410	1120	1220	1070	1290
AC-FT	84340	92990	148700	372600	260200	157000	140700	113000	93300	86080	80850	82530

e Estimated.

11355010 PIT RIVER BELOW PIT NO. 1 POWERPLANT, NEAR FALL RIVER MILLS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1370	1594	1789	2281	2863	3207	2521	2193	1569	1292	1253	1292
MAX	1722	3181	3834	6060	8539	6539	5614	6883	2789	1666	1563	1623
(WY)	1976	1982	1984	1997	1986	1993	1982	1995	1983	1983	1983	1983
MIN	939	1133	1214	1222	1268	1294	1173	1050	1012	954	828	784
(WY)	1995	1993	1993	1991	1994	1992	1992	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1975 - 1997	
ANNUAL TOTAL	880427		863250			
ANNUAL MEAN	2406		2365		1928	
HIGHEST ANNUAL MEAN					2895	1995
LOWEST ANNUAL MEAN					1149	1992
HIGHEST DAILY MEAN	10800	Feb 22	20700	Jan 4	28800	Feb 20 1986
LOWEST DAILY MEAN	887	Aug 25	1070	Aug 11	535	Sep 11 1994
ANNUAL SEVEN-DAY MINIMUM	1190	Aug 19	1240	Aug 5	663	Sep 7 1994
INSTANTANEOUS PEAK FLOW			21600	Jan 4	30000	Feb 20 1986
INSTANTANEOUS PEAK STAGE			15.05	Jan 4	17.03	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	1746000		1712000		1397000	
10 PERCENT EXCEEDS	4270		3580		3140	
50 PERCENT EXCEEDS	1700		1640		1470	
90 PERCENT EXCEEDS	1280		1330		1150	

11358020 LOST CREEK BELOW DIVERSION TO LOST CREEK POWERPLANT NO. 1, NEAR OLD STATION, CA

LOCATION.--Lat 40°45'35", long 121°24'46", in NW 1/4 SW 1/4 sec.34, T.34 N., R.5 E., Shasta County, Hydrologic Unit 18020003, on right bank 0.4 mi downstream from Lost Creek Diversion Dam, 2.5 mi downstream from Porcupine Reservoir, 6.0 mi north of Old Station, and 13.2 mi southeast of Cassel.

DRAINAGE AREA.--7.53 mi^2.

PERIOD OF RECORD.--October 1989 to current year (operated as low-flow station only).

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 3,900 ft above sea level, from topographic map.

REMARKS.--During times of powerplant operation, the minimum release requirement is 15 ft^3/s; flow is computed to 80 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Snow Mountain Hydro, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e18	e56	16	---	20	17	16	16	16	17	17	17
2	e18	e56	16	---	17	16	16	17	17	16	17	17
3	e18	e56	16	---	17	16	16	16	17	17	17	26
4	e18	e56	16	---	17	16	16	16	17	16	17	21
5	18	e56	16	76	17	17	16	17	16	17	23	17
6	17	e56	20	36	17	17	16	16	17	17	17	17
7	17	e56	16	29	17	31	17	16	17	16	17	17
8	17	e56	16	23	17	59	16	17	17	17	17	17
9	17	e56	16	21	17	59	16	16	20	17	17	17
10	16	e56	16	19	17	31	16	16	19	28	17	17
11	19	e56	16	17	17	59	17	16	26	17	21	17
12	16	e56	16	17	17	59	17	16	25	17	17	17
13	16	e56	16	19	21	47	e17	17	17	17	17	17
14	e16	e56	16	19	e60	16	22	17	17	17	20	21
15	e16	e56	16	19	e61	17	17	16	17	17	18	17
16	e16	e56	16	17	e61	17	16	17	17	19	18	17
17	e16	e56	16	17	e61	27	17	16	17	17	17	17
18	e16	e56	16	17	e61	16	17	16	17	16	17	17
19	e16	e56	16	17	30	16	17	16	17	16	17	17
20	e16	e56	16	17	21	16	17	16	17	17	17	17
21	e16	e56	e16	17	17	16	17	16	17	16	18	17
22	e16	e56	e16	40	16	16	17	17	17	16	18	17
23	e17	34	e16	44	17	16	16	16	16	16	18	17
24	e17	16	e16	17	16	18	17	16	17	19	18	34
25	17	16	e16	29	16	29	17	16	17	16	17	17
26	17	16	e16	17	16	16	17	16	17	19	17	17
27	17	16	e16	18	17	17	17	17	17	16	17	17
28	17	16	e16	21	16	16	16	17	17	27	17	17
29	e56	21	e16	24	---	17	16	17	17	19	17	17
30	e56	16	e16	37	---	17	16	17	17	26	17	17
31	e56	---	e16	17	---	16	---	17	---	21	17	---
TOTAL	639	1383	500	---	714	763	501	508	529	559	546	544
MEAN	20.6	46.1	16.1	---	25.5	24.6	16.7	16.4	17.6	18.0	17.6	18.1
MAX	56	56	20	---	61	59	22	17	26	28	23	34
MIN	16	16	16	---	16	16	16	16	16	16	17	17
AC-FT	1270	2740	992	---	1420	1510	994	1010	1050	1110	1080	1080
a	2040	541	2450	2570	1760	2380	2480	2640	2420	2410	2550	2460

e Estimated.

a Discharge, in acre-feet, for Lost Creek No. 1 Powerplant (station 11358010), provided by Snow Mountain Hydro.

11358700 HAT CREEK BELOW HAT NO. 1 DIVERSION DAM, NEAR BURNEY, CA

LOCATION.--Lat 40°55'08", long 121°33'02", in NW 1/4 SW 1/4 sec.5, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank at Hat No. 1 diversion dam on Hat Creek, 6.5 mi northeast of Burney.

DRAINAGE AREA.--347 mi^2.

PERIOD OF RECORD.--Oct. 1 to Dec. 8, 1987 (fragmentary), Dec. 9, 1987, to current year (operated as a low-flow station only). Unpublished fragmentary records for water years 1980-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Cipolletti weir. Elevation of gage is 3,180 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 2.0 ft^3/s at all times. Flow is computed to 6.0 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.6	2.8	2.8	2.8	2.8	2.9	2.8	2.9	2.8	2.9	3.0
2	2.8	2.6	2.8	---	2.8	2.8	2.9	2.7	2.9	2.9	2.9	3.1
3	2.8	2.6	2.8	2.7	2.8	2.8	2.9	2.7	2.9	2.9	2.9	3.4
4	2.8	2.5	2.8	2.6	2.8	2.8	2.9	2.7	2.9	2.8	2.9	3.1
5	2.9	2.6	2.9	2.6	2.7	2.8	2.9	2.7	3.0	2.8	3.0	3.1
6	2.9	2.7	2.9	2.6	2.6	2.8	2.9	2.8	3.0	2.8	3.1	3.0
7	2.9	2.7	2.8	2.7	2.8	2.7	2.9	2.9	3.0	2.9	3.1	3.0
8	2.9	3.0	2.8	2.8	2.9	2.7	2.8	2.9	3.0	3.0	3.1	3.0
9	2.7	3.0	3.0	2.8	2.9	2.8	2.8	2.8	3.0	2.9	3.1	3.0
10	2.7	2.9	2.8	2.8	2.8	2.8	2.8	2.8	3.0	2.8	3.1	3.0
11	2.7	2.9	2.9	2.8	3.0	2.8	2.8	2.7	3.0	2.8	3.3	2.9
12	2.6	2.9	2.9	2.9	3.0	2.8	2.7	2.7	3.0	3.0	3.0	2.9
13	2.6	2.9	2.9	2.8	2.9	2.8	2.8	2.8	3.0	3.5	3.0	2.9
14	2.6	2.8	2.8	2.9	2.8	2.9	2.8	2.7	3.0	3.3	3.0	2.8
15	2.7	2.8	2.8	2.9	2.7	2.9	2.8	2.8	3.0	3.1	3.0	2.8
16	2.7	2.8	2.8	3.0	2.7	2.9	2.7	3.1	3.0	3.0	3.0	2.9
17	2.8	3.0	2.8	3.0	2.5	2.9	2.8	3.0	2.9	3.0	3.0	2.9
18	3.0	2.9	2.8	3.0	2.7	2.9	2.8	3.0	3.0	2.9	3.1	2.8
19	2.9	2.8	2.8	3.0	2.8	2.8	2.9	3.0	3.0	3.2	3.0	2.8
20	2.9	2.8	2.8	3.0	2.8	2.8	2.9	3.0	3.0	3.2	3.1	2.7
21	2.9	2.8	2.8	3.0	2.8	2.8	2.9	2.9	3.0	3.1	3.0	2.7
22	2.9	2.8	---	3.1	2.8	2.9	3.0	2.9	3.0	3.0	2.9	2.7
23	2.9	2.9	2.9	3.0	2.8	2.9	3.0	2.9	3.0	2.9	2.9	2.7
24	2.7	2.9	2.8	3.0	2.7	2.9	3.4	2.9	3.0	2.9	3.0	2.7
25	2.6	2.8	2.8	3.0	2.7	3.4	3.2	2.9	2.9	2.9	3.0	2.7
26	2.5	2.7	2.8	3.1	2.8	3.0	2.9	2.9	2.9	2.9	3.0	2.7
27	2.4	2.7	2.8	3.1	2.8	2.9	2.9	2.9	2.9	2.9	3.0	2.7
28	2.6	2.7	2.8	3.0	2.8	2.9	2.8	2.9	2.9	3.0	3.0	2.7
29	2.6	2.7	2.8	2.8	---	2.9	2.8	2.9	2.8	2.8	3.0	2.7
30	2.6	2.7	2.8	2.8	---	2.9	2.8	3.0	2.5	2.8	3.0	2.7
31	2.6	---	2.8	2.8	---	2.9	---	2.9	---	2.8	2.9	---
TOTAL	85.0	83.5	---	---	78.0	88.7	86.4	88.6	88.4	91.6	93.3	86.1
MEAN	2.74	2.78	---	---	2.79	2.86	2.88	2.86	2.95	2.95	3.01	2.87
MAX	3.0	3.0	---	---	3.0	3.4	3.4	3.1	3.0	3.5	3.3	3.4
MIN	2.4	2.5	---	---	2.5	2.7	2.7	2.7	2.5	2.8	2.9	2.7
AC-FT	169	166	---	---	155	176	171	176	175	182	185	171

11358800 HAT CREEK NO. 1 POWERPLANT NEAR BURNEY, CA

LOCATION.--Lat 40°55'45", long 121°32'37", in SW 1/4 SW 1/4 sec.32, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank of Hat Creek at the upper end of Baum Lake, 7.4 mi northeast of Burney.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey. Fragmentary records for water years 1921-80 available in the files of the Pacific Gas & Electric Co.

GAGE.--Discharge computed from powerplant output.

REMARKS.--Water is diverted from left bank of Hat Creek at NW 1/4 SW 1/4 sec.5, T.36 N., R.8 W., through a canal to powerplant and then into Hat Creek. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 453 ft^3/s, Oct. 20, 1986; no flow several days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	325	347	432	454	398	420	375	313	291	291	302
2	280	325	347	466	454	398	399	375	302	325	291	280
3	280	325	364	483	420	409	387	375	313	336	291	280
4	280	347	364	517	466	409	387	375	313	336	280	302
5	280	347	364	443	443	409	387	313	302	336	280	291
6	280	347	364	443	443	375	381	302	302	336	280	291
7	280	336	364	420	420	375	347	291	302	302	291	291
8	280	336	364	420	420	375	347	268	302	302	302	291
9	273	347	375	420	420	375	387	291	336	280	302	280
10	291	347	375	420	420	375	364	291	325	280	302	280
11	291	347	375	420	420	387	364	291	347	280	267	280
12	291	336	398	420	420	387	364	302	336	286	291	291
13	291	336	398	409	420	387	364	302	336	280	291	325
14	280	336	398	409	420	387	336	302	336	280	291	325
15	280	336	398	409	420	387	302	291	336	291	280	336
16	280	336	387	398	420	387	302	291	336	302	280	325
17	280	336	375	398	420	387	302	291	336	302	280	325
18	280	347	375	398	420	409	302	291	291	302	280	325
19	280	375	364	398	420	409	302	313	295	302	280	325
20	280	375	364	398	416	409	302	336	302	302	291	325
21	313	364	364	409	398	398	347	347	302	302	291	325
22	325	364	302	409	398	398	398	302	302	302	280	325
23	336	358	364	409	398	398	398	325	302	302	280	325
24	347	375	364	409	398	398	398	325	291	302	280	302
25	387	364	364	409	398	336	398	325	291	280	280	302
26	387	347	364	409	409	409	398	325	302	280	280	291
27	370	364	364	409	409	409	398	325	302	280	313	291
28	347	364	364	432	398	409	375	325	302	280	313	291
29	325	347	375	420	---	409	375	325	302	268	313	291
30	336	347	387	420	---	409	375	313	302	280	302	280
31	347	---	432	420	---	375	---	313	---	291	302	---
TOTAL	9457	10436	11504	13076	11762	12182	10906	9816	9359	9218	8975	9093
MEAN	305	348	371	422	420	393	364	317	312	297	290	303
MAX	387	375	432	517	466	409	420	375	347	336	313	336
MIN	273	325	302	398	398	336	302	268	291	268	267	280
AC-FT	18760	20700	22820	25940	23330	24160	21630	19470	18560	18280	17800	18040
a	25040	26890	29200	29570	26940	19050	29450	27780	27240	26780	25720	25880

a Discharge, in acre-feet, for Hat Creek No. 2 Powerplant (station 11359300), provided by Pacific Gas & Electric Co.

11359100 HAT NO. 2 POWER CANAL DIVERSION TO HAT CREEK, NEAR BURNEY, CA

LOCATION.--Lat 40°57'01", long 121°32'39", in SE 1/4 NW 1/4 sec.29, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, on right bank of Hat No. 2 Power Canal 75 ft downstream from Hat No. 2 Diversion Dam on Hat Creek, 7.9 mi northeast of Burney.

PERIOD OF RECORD.--Oct. 1 to Dec. 9, 1987 (fragmentary), Dec. 10, 1987, to current year (operated as a low-flow station only). Unpublished fragmentary records for water years 1979-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 2,980 ft sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 8.0 ft^3/s at all times. Flow is computed to 15 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	10	9.7	11	9.7	10	11	9.7	9.4	11	11	11
2	9.5	10	9.7	10	9.8	9.9	10	9.1	9.6	10	11	11
3	9.5	10	9.6	9.9	9.7	9.9	10	8.8	9.6	10	11	11
4	9.6	10	9.6	9.7	9.7	9.9	10	8.7	---	9.8	11	11
5	9.6	10	9.8	9.7	9.8	9.9	10	8.9	---	9.6	11	10
6	9.5	10	9.8	9.7	9.8	9.9	11	9.1	11	9.8	11	10
7	9.7	10	9.8	9.7	9.9	9.9	11	9.1	11	11	11	10
8	9.8	9.9	9.8	9.7	9.9	9.9	10	9.2	11	11	11	10
9	9.7	10	9.8	9.7	9.9	9.9	10	9.3	11	10	11	10
10	9.8	9.9	10	9.7	9.9	---	9.6	9.3	11	10	11	11
11	10	9.9	10	9.7	9.9	---	9.0	9.0	10	11	11	11
12	9.7	9.9	10	9.7	9.9	---	8.9	9.2	9.9	10	11	11
13	9.7	9.9	10	9.7	10	---	9.2	9.6	11	10	11	11
14	9.7	9.9	9.9	9.7	9.9	---	9.2	9.7	11	10	11	11
15	9.7	9.9	9.9	9.7	9.9	---	9.1	9.7	11	9.9	11	11
16	9.7	9.9	9.8	9.7	9.9	---	9.2	9.7	11	9.8	11	11
17	9.8	10	9.8	9.7	9.9	---	9.3	9.6	10	11	11	11
18	10	10	9.7	9.7	9.9	---	9.3	9.4	10	11	11	11
19	10	10	9.7	9.7	9.9	---	9.6	9.5	11	11	11	11
20	10	10	9.7	9.7	9.9	---	10	9.5	10	11	11	11
21	10	10	9.7	9.7	9.9	---	10	9.2	10	10	11	11
22	10	10	9.7	9.9	9.9	---	10	8.7	11	10	11	10
23	10	10	9.7	9.8	9.9	---	10	8.9	11	11	11	10
24	10	10	9.7	9.7	9.9	---	10	8.8	11	11	11	10
25	10	10	9.7	9.8	9.9	---	10	8.5	11	11	11	10
26	10	9.8	9.7	9.8	10	9.3	9.9	8.5	11	11	11	10
27	10	9.8	9.9	9.8	9.9	9.4	9.8	10	11	11	11	10
28	10	9.7	9.8	9.7	10	9.6	9.7	11	11	11	11	10
29	10	9.8	9.8	9.7	---	9.8	9.7	10	11	11	11	10
30	10	9.7	10	9.7	---	10	9.8	9.9	12	11	10	10
31	10	---	10	9.7	---	10	---	9.4	---	11	10	---
TOTAL	304.7	298.0	303.8	303.1	276.6	---	294.3	289.0	---	325.9	339	316
MEAN	9.83	9.93	9.80	9.78	9.88	---	9.81	9.32	---	10.5	10.9	10.5
MAX	10	10	10	11	10	---	11	11	---	11	11	11
MIN	9.5	9.7	9.6	9.7	9.7	---	8.9	8.5	---	9.6	10	10
AC-FT	604	591	603	601	549	---	584	573	---	646	672	627

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA

11361400 LAKE BRITTON NEAR BURNEY.--Lat 41°1'20", long 121°40'32", in SW 1/4 SW 1/4 sec.19, T.37 N., R.3 E.,Shasta County, Hydrologic Unit 18020003, Shasta National Forest, at control house on right bank 200 ft upstream from dam on Pit River, 1.1 mi downstream from Clark Creek, 1.3 mi northwest of Burney Falls, and 9 mi north of Burney. DRAINAGE AREA, 4,607 mi^2, excluding Goose Lake Basin. PERIOD OF RECORD, October 1965 to current year (monthend contents only). Fragmentary records for water years 1925-65 in files of the Pacific Gas & Electric Co. GAGE, remote telemark read once daily. Datum of gage is 19.53 ft above sea level (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated Dec. 1, 1976, provided by Pacific Gas & Electric Co.

REMARKS.--Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Usable capacity, 41,877 acre-ft between elevations 2,665.0 ft, invert of sluice gate, and 2,758.0 ft, top of flash boards. Dead storage, 30 acre-ft. Normal operating pool is from elevation 2,744.0 ft, capacity, 26,183 acre-ft, to 2,757.0 ft, capacity, 40,626 acre-ft. Figures given represent total contents. Lake is used for power generation and recreation. See schematic diagram of Pit and McCloud River basins. Records prior to water year 1977 reported usable contents only.

COOPERATION.--Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum total contents, 47,922 acre-ft, Feb. 20, 1986, elevation, 2,762.50 ft; minimum total contents, 26,755 acre-ft, Oct. 9, 1976, elevation, 2,744.60 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 43,403 acre-ft, Jan. 4, elevation, 2,759.15 ft; minimum, 25,534 acre-ft, May 23, elevation, 2,743.31 ft.

11363920 IRON CANYON RESERVOIR NEAR BIG BEND.--Lat 41°02'41", long 121°58'52", in SW 1/4 SE 1/4 sec.21, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, in control house on left bank 500 ft upstream from Iron Canyon Dam on Iron Canyon Creek, 3.7 mi northwest of Big Bend. DRAINAGE AREA, 11.1 mi^2. PERIOD OF RECORD, December 1965 to current year (monthend contents only). GAGE, water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated May 17, 1965, provided by Pacific Gas & Electric Co.

REMARKS.--Reservoir is formed by a rockfill dam completed in 1965. Usable capacity is 24,197 acre-ft between elevations 2,525.00 ft, invert of sluice pipe, and 2,665.00 ft, crest of spillway. Dead storage, 44 acre-ft. Normal operating pool is from elevation 2,565.0 ft, capacity, 990 acre-ft, to 2,664.0 ft, capacity, 23,738 acre-ft. Water is diverted from Lake McCloud (station 11367740) through a tunnel to Iron Canyon Reservoir and then into the Pit River via James B. Black Powerplant (station 11363910). Figures given represent total contents. Water is used for power generation and recreation. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 23,539 acre-ft, May 16, 22, 1977, elevation, 2,663.60 ft; normal minimum since reservoir first filled, 2,860 acre-ft, May 23, 24, 29, June 2, 7, 9, 14, 23, 24, 1966, elevation, 2,590.00 ft. Contents reduced to 195 acre-ft, elevation, 2,540.00 ft, Feb. 10, 1971, when reservoir was drained for inspection.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 20,098 acre-ft, July 29, elevation, 2,656.30 ft; minimum, 3,209 acre-ft, Dec. 26, Mar. 2, elevation, 2,593.10 ft.

11367740 LAKE McCLOUD NEAR McCLOUD.--Lat 41°08'06", long 122°04'26", in SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on McCloud Dam near spillway on McCloud River, 200 ft downstream from Panther Creek, and 8.8 mi southeast of McCloud. DRAINAGE AREA, 403 mi^2. PERIOD OF RECORD, October 1965 to current year (monthend contents only). GAGE, water-stage recorder. Datum of gage is sea level (levels by Pacific Gas & Electric Co.). Monthend contents based on capacity table dated June 29, 1965, provided by Pacific Gas & Electric Co.

REMARKS.--Reservoir is formed by a rockfill dam completed in 1965. Usable capacity, 35,231 acre-ft between elevations 2,471.30 ft, invert of sluice pipe, and 2,680.00 ft, maximum operational water surface. Dead storage, 3 acre-ft. Normal operating pool is from elevation 2,635.00 ft, capacity, 16,425 acre-ft, to 2,680.00 ft, capacity, 35,234 acre-ft. Water is diverted from Lake McCloud (station 11367740) through a diversion tunnel to Iron Canyon Reservoir (station 11363920) and then into the Pit River via James B. Black Powerplant (station 11363910). Figures given represent total contents. Water is used for power generation and recreation. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Record of contents collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 35,967 acre-ft, Jan. 15, 1974, elevation, 2,681.40 ft; minimum since reservoir first filled, 13,017 acre-ft, Oct. 14-22, 1981, elevation, 2,632.50 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 35,079 acre-ft, Dec. 30, elevation, 2,679.70 ft; minimum, 20,888 acre-ft, Dec. 7, elevation, 2,647.80 ft.

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA—Continued

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	11361400 LAKE BRITTON			11363920 IRON CANYON RESERVOIR			11367740 LAKE McCLOUD		
Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents acre-feet)	Change in contents (acre-feet)
Sept. 30	2,755.20	38,379	--	2,637.10	12,750	--	2,656.40	24,276	--
Oct. 31	2,753.42	36,236	-2,143	2,637.80	12,977	+227	2,654.40	23,459	-817
Nov. 30	2,749.99	32,313	-3,923	2,617.70	7,402	-5,575	2,656.20	24,194	+735
Dec. 31	2,756.59	40,104	+7,791	2,615.90	6,996	-406	2,678.70	34,562	+10,368
CAL YR 1996	--	--	+8,106	--	--	-291	--	--	+17,286
Jan. 31	2,756.70	40,246	+142	2,593.90	3,305	-3,691	2,677.70	34,051	-511
Feb. 28	2,756.80	49,373	+127	2,594.20	3,342	+37	2,661.00	26,220	-7,831
Mar. 31	2,756.40	39,869	-504	2,607.10	5,252	+1,910	2,657.70	24,816	-1,404
Apr. 30	2 756.20	39,618	-251	2,627.90	9,995	+4,743	2,659.70	25,661	+845
May 31	2,749.30	31,562	-8,056	2,653.20	18,746	+8,751	2,677.00	33,696	+8,035
June 30	2,754.65	37,708	+6,146	2,648.50	16,820	-1,926	2,673.80	32,105	-1,591
July 31	2,752.55	35,213	-2,495	2,654.60	19,348	+2,528	2,675.00	32,696	+591
Aug. 31	2,753.80	36,685	+1,472	2,643.90	15,077	-4,271	2,667.00	28,891	-3,805
Sept. 30	2,755.80	39,120	+2,435	2,643.90	15,077	0	2,660.60	26,047	-2,844
WTR YR 1997	--	--	+741	--	--	+2,327	--	--	+1,771

11362500 PIT RIVER BELOW PIT NO. 4 DAM, CA

LOCATION.--Lat 40°58'25", long 121°46'42", unsurveyed, T.36 N., R.2 E., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on right bank 0.6 mi downstream from Ruling Creek, 1.3 mi downstream from Pit No. 4 Dam, and 2.7 mi downstream from Pit No. 3 Powerplant.

DRAINAGE AREA.--4,648 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--May 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Pecks Bridge" April to October 1922, and as "at Lindsay Flat" November 1922 to June 1927.

REVISED RECORDS.--WSP 843: 1935(M). WSP 1315-A: 1928(M). WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,358 ft above sea level, from river-profile map. Prior to November 1922, water-stage recorder at site at Pecks Bridge 7.4 mi upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 mi upstream at different datum. June 20, 1927, to Sept. 5, 1990, at site 200 ft downstream at datum 0.15 ft lower.

REMARKS.--Low flow completely regulated by small reservoirs and powerplants, total usable reservoir capacity, 253,000 acre-ft. Many diversions upstream from station; diversion to Pit No. 4 Powerplant began June 9, 1955. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft^3/s, Feb. 20, 1986, gage height, 18.70 ft; minimum daily, prior to diversion to Pit No. 4 Powerplant in 1955, 234 ft^3/s, Sept. 13, 1953. Minimum daily, since diversion to Pit No. 4 Powerplant, 22 ft^3/s, Dec. 2-4, 1969.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	166	164	14500	5450	160	163	168	178	162	163	164
2	169	159	164	18600	5680	163	164	162	163	161	162	164
3	165	163	161	19400	5700	161	163	161	160	160	160	164
4	161	162	163	23800	5430	159	165	160	162	160	160	162
5	162	162	161	19500	4220	164	165	160	163	161	160	167
6	168	162	161	13800	3500	161	165	160	161	161	161	169
7	165	162	160	9300	2590	159	163	160	160	161	164	180
8	162	163	166	6000	1850	160	162	160	159	160	166	177
9	160	162	165	4970	1740	160	162	160	160	160	166	162
10	158	163	167	3550	1600	162	161	160	161	162	165	160
11	164	164	166	2580	1400	162	162	161	163	161	162	164
12	161	163	2030	2120	1400	161	163	164	162	161	160	173
13	160	160	2250	1300	1440	160	163	162	163	161	160	182
14	160	162	1680	578	1350	167	162	162	163	162	164	182
15	160	168	882	164	1110	170	161	163	163	162	164	160
16	160	168	161	160	1040	169	160	163	162	162	164	165
17	161	167	159	158	822	168	162	161	161	162	167	163
18	164	165	161	158	919	165	163	161	161	164	166	162
19	165	167	157	159	901	164	164	161	160	164	166	163
20	164	161	159	861	1090	390	161	161	160	161	165	162
21	162	160	158	541	758	646	162	161	160	159	164	162
22	161	160	157	1410	171	470	163	160	160	160	166	182
23	160	160	158	1820	163	266	162	163	160	160	166	187
24	164	159	160	868	171	264	159	163	160	161	165	186
25	163	159	159	633	256	252	891	160	163	160	163	182
26	161	159	164	323	163	201	503	160	166	162	162	189
27	160	159	167	1480	160	161	551	160	160	167	162	189
28	160	160	164	3040	158	164	356	160	162	164	163	178
29	162	161	401	4370	---	161	162	160	160	164	163	172
30	169	163	1550	4790	---	163	163	159	161	164	162	167
31	168	---	8890	4950	---	163	---	163	---	160	164	---
TOTAL	5041	4869	21565	165883	51232	6396	6526	4999	4857	5009	5065	5139
MEAN	163	162	696	5351	1830	206	218	161	162	162	163	171
MAX	169	168	8890	23800	5700	646	891	168	178	167	167	189
MIN	158	159	157	158	158	159	159	159	159	159	160	160
AC-FT	10000	9660	42770	329000	101600	12690	12940	9920	9630	9940	10050	10190
a	104900	119600	157100	179600	162300	177400	156600	131800	109300	103400	95330	97670
b	127700	139900	196500	235500	219700	229700	198800	162400	131800	126100	115000	114400

a Discharge, in acre-feet, for Pit No. 3 Powerplant (station 11362300), provided by Pacific Gas & Electric Co.
b Diversion, in acre-feet, to Pit No. 4 Powerplant (station 11362600), provided by Pacific Gas & Electric Co.

11362500 PIT RIVER BELOW PIT NO. 4 DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1945	2102	2458	2700	3338	3799	3766	2877	2307	1925	1833	1865
MAX	2385	2544	5968	5523	6872	8510	11400	5507	4096	2652	2146	2318
(WY)	1954	1954	1938	1953	1942	1938	1952	1938	1953	1952	1954	1953
MIN	1571	1666	1745	1698	1742	1895	1730	1635	1612	1569	1509	1541
(WY)	1935	1934	1935	1937	1933	1934	1934	1934	1934	1934	1934	1934

SUMMARY STATISTICS	WATER YEARS 1927 - 1954	
ANNUAL MEAN	2572	
HIGHEST ANNUAL MEAN	4066	1952
LOWEST ANNUAL MEAN	1703	1934
HIGHEST DAILY MEAN	26200	Dec 12 1937
LOWEST DAILY MEAN	234	Sep 13 1953
ANNUAL SEVEN-DAY MINIMUM	1450	Aug 2 1936
INSTANTANEOUS PEAK FLOW	a30200	Dec 12 1937
INSTANTANEOUS PEAK STAGE	17.90	Dec 12 1937
ANNUAL RUNOFF (AC-FT)	1863000	
10 PERCENT EXCEEDS	3810	
50 PERCENT EXCEEDS	2170	
90 PERCENT EXCEEDS	1630	

a From rating curve extended above 12,000 ft^3/s on basis of velocity-area studies.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	235	222	426	1006	1062	1163	789	494	219	163	163	159
MAX	2189	2436	3791	7250	7657	5545	3416	4770	1479	490	458	268
(WY)	1955	1955	1965	1970	1986	1995	1982	1995	1955	1955	1992	1973
MIN	96.8	66.4	49.8	50.0	49.0	49.7	88.3	128	128	137	120	79.8
(WY)	1962	1957	1979	1981	1981	1981	1961	1961	1961	1964	1955	1955

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1955 - 1997	
ANNUAL TOTAL	258326		286581			
ANNUAL MEAN	706		785		506	
HIGHEST ANNUAL MEAN					1868	1955
LOWEST ANNUAL MEAN					98.4	1961
HIGHEST DAILY MEAN	10400	Feb 22	23800	Jan 4	31100	Feb 20 1986
LOWEST DAILY MEAN	157	Jan 1	157	Dec 19	22	Dec 2 1969
ANNUAL SEVEN-DAY MINIMUM	158	Dec 19	158	Dec 19	27	Dec 1 1969
INSTANTANEOUS PEAK FLOW			25500	Jan 4	33700	Feb 20 1986
INSTANTANEOUS PEAK STAGE			16.65	Jan 4	18.70	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	512400		568400		366700	
10 PERCENT EXCEEDS	2040		1400		1140	
50 PERCENT EXCEEDS	164		163		156	
90 PERCENT EXCEEDS	160		160		59	

11362900 NELSON CREEK BELOW DIVERSION TO NELSON CREEK POWERPLANT, NEAR BIG BEND, CA

LOCATION.--Lat 41°02'32", long 121°52'34", in NE 1/4 NE 1/4 sec.29, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on right bank 400 ft upstream from Snowslide Creek, 0.3 mi downstream from Bull Creek, and 2.3 mi northeast of Big Bend.

DRAINAGE AREA.--13.2 mi^2.

PERIOD OF RECORD.--October 1993 to September 1996. October 1996 to September 1997 (operated as a low-flow station only).

GAGE.--Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 2,320 ft above sea level, from topographic map.

REMARKS.--Records fair. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11362880) and flow over a sharp-crested weir (station 11362890). Water is diverted upstream of weirs through a tunnel to Nelson Creek Powerplant (station 11362800), returning to Nelson Creek at its confluence with the Pit River. Flow is computed to 100 ft^3/s. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 623 ft^3/s, Feb. 19, 1996; minimum daily, 7.4 ft^3/s, Sept. 8, 21, 22, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	13	e16	---	---	57	23	16	16	15	14	---
2	14	13	e16	---	---	63	47	16	16	15	14	---
3	14	13	e16	---	85	56	23	15	16	15	14	---
4	14	13	e17	---	80	54	19	15	19	17	14	---
5	14	13	e17	---	76	51	18	15	15	17	14	---
6	14	13	e15	---	73	52	17	15	15	17	14	---
7	14	13	---	---	68	45	18	15	16	17	14	---
8	14	12	---	---	64	43	17	16	16	17	14	---
9	14	12	---	---	61	39	16	16	17	17	13	---
10	14	12	---	---	59	37	15	16	18	16	13	---
11	14	12	---	---	56	36	15	16	18	16	13	---
12	14	12	---	80	52	33	15	16	18	16	13	---
13	14	12	---	---	49	31	15	16	18	16	13	12
14	14	12	87	68	46	30	15	16	17	16	13	15
15	14	12	38	62	45	30	15	16	17	16	13	17
16	14	13	29	58	43	45	15	16	17	16	13	14
17	14	19	21	53	46	67	15	16	17	16	13	12
18	14	83	22	47	43	57	22	16	17	16	13	13
19	14	52	16	42	41	54	43	16	17	15	13	14
20	14	60	16	40	40	54	65	17	17	15	18	14
21	14	e30	15	45	38	51	62	16	17	15	14	15
22	14	e54	15	45	35	50	56	16	17	15	14	15
23	14	e18	15	30	33	47	56	15	16	15	13	15
24	e14	e16	15	24	32	43	41	16	16	15	13	15
25	e13	e16	15	66	46	40	25	16	16	15	---	15
26	13	e16	15	---	60	36	16	16	15	15	---	15
27	13	e16	---	---	59	32	16	16	15	15	---	15
28	13	e16	---	---	59	28	15	16	15	14	---	14
29	15	e16	---	---	---	26	15	16	15	14	---	14
30	14	e16	---	---	---	27	16	16	15	14	---	14
31	13	---	---	---	---	28	---	16	---	14	---	---
TOTAL	430	628	---	---	---	1342	766	491	494	482	---	---
MEAN	13.9	20.9	---	---	---	43.3	25.5	15.8	16.5	15.5	---	---
MAX	15	83	---	---	---	67	65	17	19	17	---	---
MIN	13	12	---	---	---	26	15	15	15	14	---	---
AC-FT	853	1250	---	---	---	2660	1520	974	980	956	---	---
a	4.0	629	1670	1960	2830	3140	2300	1140	320	14	0	11

NOTE: Weirs were out of service Aug. 25 to Sept. 12 and all flow remained in the natural channel.

e Estimated.

a Discharge, in acre-feet, for Nelson Creek Powerplant (station 11362800), provided by Sierra Pacific Industries.

11362950 EAST FORK NELSON CREEK BELOW DIVERSION TO NELSON CREEK, NEAR BIG BEND, CA

LOCATION.--Lat 41°02'25", long 121°52'28", in NE 1/4 NE 1/4 sec.29, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on right bank 700 ft upstream from Nelson Creek, and 2.3 mi northeast of Big Bend.

DRAINAGE AREA.--8.18 mi^2.

PERIOD OF RECORD.--October 1993 to September 1996. October 1996 to September 1997 (operated as a low-flow station only).

GAGE.--Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 2,360 ft above sea level, from topographic map.

REMARKS.--Records good. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11362940) and flow over a sharp-crested weir (station 11362945). Water is diverted upstream of weirs through a pipe to Nelson Creek (station 11362900). Flows computed to 22 ft^3/s. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 267 ft^3/s, Mar. 15, 1995; minimum daily, 0.07 ft^3/s, Aug. 12 to Sept. 23, 1994 and Oct. 11, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.3	3.0	---	---	---	---	---	9.2	e6.4	3.7	3.2
2	1.8	2.3	2.9	---	---	---	---	---	9.0	e6.2	3.6	3.2
3	2.1	2.3	2.9	---	---	---	---	---	9.7	e6.1	3.7	3.4
4	2.2	2.3	3.0	---	---	---	---	---	10	6.1	3.6	3.3
5	2.2	2.3	3.8	---	---	---	---	11	e9.4	6.0	3.4	3.2
6	2.2	2.3	3.7	---	---	---	---	11	e9.3	6.0	3.3	3.2
7	2.2	2.3	6.4	---	---	---	---	11	e9.1	5.6	3.4	3.1
8	2.2	2.2	15	---	---	---	---	11	e8.9	5.4	3.4	3.0
9	2.2	2.2	---	---	---	---	---	11	e8.6	5.3	3.4	3.0
10	2.1	2.2	---	---	---	---	---	11	8.5	5.3	3.5	3.0
11	2.2	2.2	---	---	---	---	---	11	8.5	5.4	3.6	3.0
12	2.2	2.2	---	---	---	---	---	11	8.2	5.3	3.4	e3.0
13	2.3	2.2	21	---	---	---	---	11	8.1	5.2	3.2	e3.0
14	2.3	2.2	17	---	---	---	---	11	7.9	5.0	3.2	e3.6
15	2.3	2.2	15	---	---	---	---	11	7.6	4.5	3.2	e4.0
16	2.3	2.2	13	---	---	---	---	11	7.5	4.5	3.3	e3.5
17	2.3	3.0	11	---	---	---	---	11	7.4	4.5	3.3	e3.5
18	2.4	10	9.5	---	---	---	---	11	7.3	4.4	3.3	3.3
19	2.4	8.2	8.5	---	---	---	---	11	7.3	4.3	3.2	3.2
20	2.4	10	8.1	---	---	---	---	11	7.2	4.3	4.6	3.1
21	2.3	6.2	7.8	---	---	---	---	11	7.1	4.3	3.8	3.0
22	2.3	9.2	7.7	---	---	---	---	11	7.0	4.1	3.6	3.0
23	2.4	5.2	7.1	---	---	---	---	11	6.8	4.0	3.4	3.0
24	2.7	4.4	6.3	---	---	---	---	11	6.8	4.0	3.4	3.0
25	2.5	3.9	6.1	---	---	---	---	11	6.7	4.0	3.4	3.0
26	2.4	3.5	6.8	---	---	---	---	11	6.5	4.0	3.2	3.0
27	2.3	3.2	12	---	---	---	---	10	6.1	4.0	3.3	2.9
28	2.3	3.2	---	---	---	---	---	9.9	6.1	4.0	3.3	2.8
29	2.9	3.0	---	---	---	---	---	9.6	6.1	4.0	3.3	2.8
30	2.6	3.0	---	---	---	---	---	9.5	6.5	4.0	3.3	2.8
31	2.4	---	---	---	---	---	---	9.4	---	3.9	3.3	---
TOTAL	71.2	111.9	---	---	---	---	---	---	234.4	150.1	106.6	94.1
MEAN	2.30	3.73	---	---	---	---	---	---	7.81	4.84	3.44	3.14
MAX	2.9	10	---	---	---	---	---	---	10	6.4	4.6	4.0
MIN	1.8	2.2	---	---	---	---	---	---	6.1	3.9	3.2	2.8
AC-FT	141	222	---	---	---	---	---	---	465	298	211	187

e Estimated.

NOTE: Discharges above 22 ft^3/s Dec. 9-12 and Dec. 28 to Jan. 1. Gage out of service Jan. 2 to May 4 and all flow remained in the natural channel.

11363000 PIT RIVER AT BIG BEND, CA

LOCATION.--Lat 41°01'10", long 121°54'36", in NW 1/4 SW 1/4 sec.31, T.37 N., R.1 E., Shasta County, Hydrologic Unit 18020003, on left bank at Big Bend, 0.4 mi downstream from Nelson Creek, 1.5 mi upstream from Kosk Creek, and 3.1 mi downstream from Pit No. 5 Dam.

DRAINAGE AREA.--4,711 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Henderson" 1910-23.

REVISED RECORDS.--WSP 1345: 1911, 1914(M), 1916(M), 1917, 1928, 1935-36(M). WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,674.47 ft above sea level. Prior to Dec. 28, 1912, nonrecording gage; Dec. 28, 1912, to June 21, 1924, water-stage recorder at same site, at datum 7.69 ft higher. June 22, 1924, to Sept. 30, 1988, at site 200 ft downstream at same datum.

REMARKS.--Low flow completely regulated by many reservoirs and powerplants, total usable reservoir capacity, about 253,000 acre-ft. Many diversions upstream from station; diversion to Pit No. 5 Powerplant (station 11362700) began May 1, 1944. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,000 ft^3/s, Jan. 25, 1970, gage height, 18.17 ft in gage well, 19.0 ft from floodmarks, site then in use, from rating curve extended above 17,000 ft^3/s; maximum gage height, 18.70 ft, Feb. 20, 1986, site then in use; minimum daily, 692 ft^3/s, July 9, 1925; since diversion to Pit No. 5 Powerplant, minimum daily, 34 ft^3/s, Mar. 29, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 4	0300	41,200	18.36	Jan 22	2130	7,670	11.53

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	146	146	21100	3990	268	223	210	170	149	144	146
2	141	146	143	27700	4220	295	219	205	177	148	144	146
3	146	145	153	26000	4170	274	219	203	179	150	148	146
4	143	145	157	30200	4150	260	219	200	184	150	143	144
5	144	141	177	23400	3200	256	217	196	170	148	145	145
6	148	144	172	17000	2610	254	214	195	168	153	143	142
7	143	144	239	11600	1920	251	212	194	169	150	144	149
8	143	148	366	8080	1330	245	212	193	168	145	149	144
9	152	151	497	7120	1100	244	212	188	168	146	142	140
10	148	142	623	5280	983	243	211	176	159	145	143	147
11	147	140	1290	4270	861	239	208	178	159	146	141	155
12	154	147	2510	2630	866	240	197	186	154	146	140	149
13	157	146	2970	1690	831	236	198	185	153	146	141	148
14	160	149	2130	949	822	229	201	177	148	147	137	167
15	157	154	1330	414	646	241	206	174	138	147	138	157
16	156	161	365	389	621	263	204	174	143	143	143	148
17	152	170	248	377	493	295	198	176	148	145	147	150
18	146	341	242	361	566	264	213	172	147	148	144	151
19	147	280	228	344	539	255	228	175	149	144	145	146
20	142	305	218	715	643	375	259	178	147	148	153	144
21	148	214	216	870	497	658	270	176	145	142	148	143
22	147	287	219	1430	337	563	260	170	142	148	141	146
23	147	195	227	2170	317	390	258	180	148	143	141	156
24	153	190	213	1000	316	305	242	174	146	142	147	146
25	150	165	204	990	321	357	825	167	145	144	147	162
26	147	156	222	1200	296	328	474	175	145	141	146	146
27	145	161	338	1690	282	254	451	173	141	142	145	148
28	145	157	865	2630	271	239	428	173	138	141	144	139
29	158	147	2130	2920	---	236	228	173	139	145	139	148
30	145	141	3790	3270	---	229	223	175	145	142	141	138
31	149	---	12600	3660	---	227	---	168	---	142	144	---
TOTAL	4603	5258	35228	211449	37198	9013	7929	5639	4632	4516	4457	4436
MEAN	148	175	1136	6821	1329	291	264	182	154	146	144	148
MAX	160	341	12600	30200	4220	658	825	210	184	153	153	167
MIN	141	140	143	344	271	227	197	167	138	141	137	138
AC-FT	9130	10430	69870	419400	73780	17880	15730	11180	9190	8960	8840	8800

11363000 PIT RIVER AT BIG BEND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2206	2373	2676	3000	3927	4449	4446	3229	2520	2214	2100	2107
MAX	3021	3186	6792	7675	7989	9953	11410	6216	3763	3218	2987	2975
(WY)	1912	1912	1938	1914	1942	1938	1917	1938	1911	1911	1911	1911
MIN	1607	1740	1764	1750	1746	2051	1860	1734	1672	1584	1526	1565
(WY)	1935	1934	1935	1937	1933	1931	1934	1934	1934	1934	1934	1934

SUMMARY STATISTICS	WATER YEARS 1911 - 1943	
ANNUAL MEAN	2931	
HIGHEST ANNUAL MEAN	4597	1938
LOWEST ANNUAL MEAN	1787	1934
HIGHEST DAILY MEAN	30300	Dec 12 1937
LOWEST DAILY MEAN	692	Jul 9 1925
ANNUAL SEVEN-DAY MINIMUM	915	Jul 4 1925
INSTANTANEOUS PEAK FLOW	a34200	Dec 12 1937
INSTANTANEOUS PEAK STAGE	16.26	Dec 12 1937
ANNUAL RUNOFF (AC-FT)	2123000	
10 PERCENT EXCEEDS	4520	
50 PERCENT EXCEEDS	2440	
90 PERCENT EXCEEDS	1750	

a From rating extended above 11,000 ft^3/s on basis of velocity-area studies.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	207	212	495	1067	1206	1395	1114	617	239	132	131	124
MAX	2322	2469	3889	8804	9457	6658	8441	5420	1656	175	448	284
(WY)	1944	1944	1965	1970	1986	1995	1952	1995	1971	1996	1992	1986
MIN	58.8	56.0	45.0	51.4	57.1	52.6	49.9	114	78.5	63.5	60.9	60.1
(WY)	1949	1979	1979	1949	1977	1977	1977	1977	1944	1944	1944	1945

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1944 - 1997	
ANNUAL TOTAL	334964		334358			
ANNUAL MEAN	915		916		575	
HIGHEST ANNUAL MEAN					1638	1995
LOWEST ANNUAL MEAN					86.5	1977
HIGHEST DAILY MEAN	12600	Dec 31	30200	Jan 4	36500	Feb 21 1986
LOWEST DAILY MEAN	140	Nov 11	137	Aug 14	34	Mar 29 1955
ANNUAL SEVEN-DAY MINIMUM	143	Sep 25	140	Aug 9	40	Dec 7 1978
INSTANTANEOUS PEAK FLOW			41200	Jan 4	49000	Jan 25 1970
INSTANTANEOUS PEAK STAGE			18.36	Jan 4	18.17	Jan 25 1970
ANNUAL RUNOFF (AC-FT)	664400		663200		416800	
10 PERCENT EXCEEDS	2520		1240		1510	
50 PERCENT EXCEEDS	206		173		138	
90 PERCENT EXCEEDS	145		143		74	

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA

LOCATION.--Lat 40°59'12", long 121°58'35", in SW 1/4 SE 1/4 sec.9, T.36 N., R.1 W., Shasta County, Hydrologic Unit 18020003, at powerplant on right bank of Pit River, 5.8 mi downstream from Big Bend.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Discharge computed from powerplant output.

REMARKS.--Water is diverted from Lake McCloud (station 11367740) at SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., through McCloud-Iron Canyon Diversion Tunnel (station 11367720) to Iron Canyon Reservoir (station 11363920), then through the penstock for powerplant and into the Pit River. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,420 ft^3/s, July 15, 1966; no flow several days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	839	773	1040	758	1160	1380	1110	631	645	770	873	851
2	555	666	948	.00	1250	1340	1180	749	1140	1130	650	637
3	658	573	1240	1080	1430	1100	1110	444	604	1210	836	1380
4	815	765	1050	1140	1760	1360	1270	1110	1380	404	883	1260
5	602	518	941	1190	1450	1200	1170	1070	1470	57	950	1160
6	665	824	1420	1070	1450	1350	1020	942	1430	127	937	1020
7	864	636	1300	1140	1570	1010	1000	1070	891	998	954	874
8	709	1020	1580	1280	1410	853	1320	663	526	924	519	812
9	1040	592	1350	1420	1480	1170	944	392	1040	804	574	920
10	1020	394	1650	1490	1400	1200	1130	477	762	592	594	944
11	738	1060	1910	1470	1510	710	842	40	1130	873	858	1470
12	542	664	1430	1390	1500	1100	1200	214	766	423	947	713
13	779	599	1850	1400	1270	947	1240	562	1090	625	728	37
14	653	793	1500	990	1390	1370	1080	776	955	1040	1150	45
15	773	645	1700	923	1570	1180	604	899	527	1020	1070	700
16	556	657	1350	944	1370	895	821	503	1060	987	1060	893
17	801	868	1590	1260	1450	1110	683	234	890	595	798	654
18	728	688	1180	1420	1070	1030	1240	294	789	864	934	555
19	450	1480	1250	1780	1520	1240	708	644	1050	605	1060	1110
20	692	1730	1670	1430	1620	942	1170	1120	898	642	925	253
21	803	1660	1550	1640	1320	1160	1100	848	541	1030	787	612
22	818	1200	1300	1630	1280	1100	881	535	756	565	1170	893
23	560	1470	1550	1900	1410	1100	1260	623	888	776	1270	851
24	670	886	1360	1910	1440	1080	731	1280	898	886	706	1010
25	712	1030	1320	1530	1340	813	738	763	922	1020	943	698
26	797	1650	1490	1650	1330	1100	940	968	967	335	841	317
27	844	1080	1310	1760	1370	1290	943	652	1050	457	857	.00
28	719	924	1550	1500	1290	1570	1170	771	638	674	878	634
29	634	1320	1800	1530	---	1460	703	894	932	710	1020	1260
30	604	926	1900	1460	---	1210	675	987	825	979	349	601
31	676	---	1810	1570	---	1060	---	627	---	907	872	---
TOTAL	22316	28091	44889	41655.00	39410	35430	29983	21782	27460	23029	26993	23164.00
MEAN	720	936	1448	1344	1408	1143	999	703	915	743	871	772
MAX	1040	1730	1910	1910	1760	1570	1320	1280	1470	1210	1270	1470
MIN	450	394	941	.00	1070	710	604	40	526	57	349	.00
AC-FT	44260	55720	89040	82620	78170	70280	59470	43200	54470	45680	53540	45950
a	143500	153500	213400	213100	228600	244500	213000	179900	147900	137500	127300	127500

a Discharge, in acre-feet, for Pit No. 5 Powerplant (station 11362700), provided by Pacific Gas & Electric Co.

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	737	743	884	961	1016	1162	1137	996	879	826	803	776
MAX	1122	1401	1538	1651	1533	1566	1670	1797	1735	1260	1101	1225
(WY)	1976	1974	1974	1970	1970	1995	1966	1967	1967	1966	1983	1983
MIN	505	428	433	500	373	581	421	368	523	533	465	515
(WY)	1993	1992	1992	1992	1978	1991	1990	1977	1987	1994	1992	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	392493.00		364202.00			
ANNUAL MEAN	1072		998		906	
HIGHEST ANNUAL MEAN					1313	1974
LOWEST ANNUAL MEAN					547	1991
HIGHEST DAILY MEAN	1960	May 18	1910	Dec 11	2420	Jul 15 1966
LOWEST DAILY MEAN	.00	Jul 11	.00	Jan 2	.00	Jun 2 1966
ANNUAL SEVEN-DAY MINIMUM	512	Jul 10	446	May 8	.00	Feb 3 1971
ANNUAL RUNOFF (AC-FT)	778500		722400		656200	
10 PERCENT EXCEEDS	1560		1490		1490	
50 PERCENT EXCEEDS	1060		954		873	
90 PERCENT EXCEEDS	592		570		389	

11363930 IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND, CA

LOCATION.--Lat 41°02'22", long 121°59'03", in NW 1/4 NW 1/4 sec.28, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, on left bank 0.2 mi downstream from Iron Canyon Dam and 4.2 mi west of Big Bend.

DRAINAGE AREA.--11.2 mi^2.

PERIOD OF RECORD.--August 1966 to current year (beginning October 1994, operated as a low-flow station only).

REVISED RECORDS.--WDR CA-95-4: Drainage area.

GAGE.--Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control with flashboards in 2- x 10-ft opening. Datum of gage is 2,461.52 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Flow is completely regulated by Iron Canyon Reservoir (station 11363920). There is an interbasin diversion from Lake McCloud (station 11367740) to Iron Canyon Reservoir and then through a tunnel to James B. Black Powerplant on the Pit River (station 11363910). This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times. Flow is computed to 12.0 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 650 ft^3/s, Feb. 5, 1986, gage height unknown (flashboards removed from weir), from equation for a 4 by 4-ft slide gate. Flow was the result of full travel test of slide gate at Iron Canyon Dam; maximum gage height, 3.24 ft, Feb. 25, 1978 (flashboards in weir), was the result of failure of the James B. Black Penstock; no flow, July 15-18, 1967.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.6	3.5	---	4.0	4.1	3.5	4.1	4.6	3.8	3.6	4.0
2	3.5	3.6	3.5	---	4.0	4.3	3.4	4.1	4.6	3.6	3.6	4.0
3	3.5	3.6	3.5	---	4.1	4.2	3.4	4.2	4.6	3.5	3.6	3.9
4	3.5	3.6	---	---	3.8	4.2	3.4	4.2	4.6	3.4	3.6	3.8
5	3.5	3.6	4.1	---	3.5	4.3	3.4	4.2	4.3	3.4	3.6	3.7
6	3.5	3.7	3.6	---	3.7	4.1	3.5	4.2	3.8	3.5	3.6	3.7
7	3.5	3.6	4.0	11	4.1	4.2	3.4	4.1	3.6	3.6	3.5	3.6
8	3.5	3.6	4.2	10	4.1	4.5	3.4	4.2	3.6	3.6	3.5	3.7
9	3.5	3.6	6.5	9.6	4.0	4.6	3.4	4.3	3.6	3.6	3.5	3.7
10	3.5	3.6	7.3	9.1	3.8	4.5	3.8	4.4	3.6	3.6	3.6	3.6
11	3.4	3.6	5.1	8.6	3.9	4.6	3.8	4.4	3.6	3.6	3.6	3.5
12	3.4	3.6	4.5	8.0	3.8	4.4	3.4	4.5	3.6	3.6	3.6	3.5
13	3.5	3.6	5.3	7.6	3.7	4.0	3.4	4.5	3.6	3.6	3.6	3.6
14	3.5	3.6	4.0	7.6	3.7	3.6	3.3	4.5	3.6	3.6	3.6	3.8
15	3.5	3.6	3.6	7.6	3.7	3.6	3.4	4.5	3.6	3.6	3.9	3.9
16	3.5	3.6	3.4	7.6	3.6	3.7	3.5	4.5	3.6	3.6	4.1	3.9
17	3.6	3.7	3.2	7.6	3.7	3.9	3.6	4.6	3.6	3.6	4.1	3.9
18	3.6	e4.7	3.6	7.2	3.7	3.7	3.8	4.6	3.6	3.6	4.1	3.9
19	3.6	6.2	4.4	6.9	3.8	3.7	4.0	4.6	3.6	3.6	4.1	3.9
20	3.6	4.5	4.2	6.6	3.6	3.7	4.1	4.6	3.6	3.6	4.1	3.9
21	3.6	3.9	4.0	6.3	3.5	3.7	3.9	4.6	3.6	3.6	4.1	3.9
22	3.6	---	4.0	6.1	3.5	3.6	3.9	4.6	3.6	3.6	4.1	3.9
23	3.6	3.8	4.0	5.4	3.5	3.6	3.9	4.6	3.6	3.6	4.0	3.9
24	3.6	3.4	4.0	4.6	3.4	3.6	3.8	4.6	3.6	3.6	3.9	3.8
25	3.6	3.3	4.0	4.6	3.4	3.7	3.8	4.6	3.6	3.6	4.0	3.8
26	3.6	3.3	4.0	8.9	3.8	3.7	3.7	4.6	3.6	3.6	3.9	3.8
27	3.6	3.2	4.9	7.0	4.3	3.8	3.8	4.6	3.6	3.6	3.9	3.9
28	3.5	3.3	7.9	6.6	4.2	3.7	3.9	4.6	3.6	3.6	3.9	4.0
29	3.6	3.5	---	5.3	---	3.5	3.9	4.6	3.7	3.6	3.9	4.0
30	3.6	3.5	---	4.3	---	3.5	4.0	4.6	3.7	3.6	3.9	3.9
31	3.6	---	---	4.0	---	3.5	---	4.6	---	3.6	3.9	---
TOTAL	109.7	---	---	---	105.9	121.8	109.5	137.9	113.1	111.2	118.0	114.4
MEAN	3.54	---	---	---	3.78	3.93	3.65	4.45	3.77	3.59	3.81	3.81
MAX	3.6	---	---	---	4.3	4.6	4.1	4.6	4.6	3.8	4.1	4.0
MIN	3.4	---	---	---	3.4	3.5	3.3	4.1	3.6	3.4	3.5	3.5
AC-FT	218	---	---	---	210	242	217	274	224	221	234	227

e Estimated.

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°50'38", long 122°00'05", in NE 1/4 SW 1/4 sec.32, T.35 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on left bank 0.7 mi downstream from Pit No. 7 Dam and Powerplant, 1.4 mi upstream from Potem Creek, and 4.1 mi west of town of Montgomery Creek.

DRAINAGE AREA.--4,952 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--October 1944 to current year (monthly discharge only December 1964 to May 1965). Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1951, 1953, 1955-81.
WATER TEMPERATURE: Water years 1951, 1954-57, 1959 .

REVISED RECORDS.--WSP 1931: Drainage area. WDR CA-86-4: 1983 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,000.00 ft above sea level (levels by Pacific Gas & Electric Co.). October 1944 to Feb. 17, 1963, at site 0.7 mi upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 1.5 mi upstream at different datum. May 21, 1965, to June 20, 1981, at site 0.9 mi downstream at datum 1,036.00 ft above sea level.

REMARKS.--Low flow completely regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft. Many diversions upstream from station for irrigation. Diversion from McCloud River to Iron Canyon Reservoir (station 11363920) began December 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s, Jan. 24, 1970, gage height, 32.36 ft, site and datum then in use; maximum gage height, 74.65 ft, Feb. 19, 1986; minimum daily, 30 ft^3/s, July 12, 27, 1975, result of construction work below Pit No. 7 Powerplant.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3980	13800	5900	e37600	13800	6260	6550	5430	3850	3590	4030	2930
2	3580	13600	5740	e39200	13600	6320	5370	5540	3770	3810	2930	3500
3	3690	13500	6400	e40200	13500	5900	5660	4790	3790	4880	967	5210
4	4480	13500	6630	e30800	13500	5740	5520	5740	3850	3110	3750	5990
5	2600	11700	5980	e24600	11700	6400	5840	5450	3640	1690	4400	5780
6	3550	11000	6570	e21200	11000	6630	5620	5750	4000	588	3200	1170
7	3210	10000	4420	e17400	10000	5980	5590	5550	3940	4240	3460	252
8	3280	9130	5390	e11000	9130	6570	5820	5100	3870	3620	3120	2200
9	2890	9010	5820	12900	9010	4420	5560	4190	3800	4090	2110	3800
10	3290	8660	5530	11000	8660	5390	6130	2740	3830	2990	1880	3600
11	3990	8510	5650	10300	8510	5820	4420	2120	3880	4240	3540	4510
12	3450	8420	5900	9790	8420	5530	4200	3650	4160	1340	4630	3660
13	1880	8390	6490	8390	8390	5650	4720	5020	4240	2960	3070	1070
14	2780	8360	5720	8380	8360	5900	4750	4160	4940	3800	3810	1110
15	3050	8340	6580	6490	8340	6490	5000	4030	1800	3830	4020	3990
16	3680	8310	7700	6200	8310	5720	5570	4180	2880	3850	2010	3920
17	3380	7340	7380	6700	7340	6580	4450	2570	4060	3580	2230	3610
18	3170	6290	6720	8070	6290	5310	5880	1560	4120	3880	3440	2820
19	3500	8310	5980	6600	8310	6190	2550	4100	4160	2070	3890	4360
20	2280	7800	6870	7900	7800	5800	4730	4550	4130	1880	3840	1670
21	2370	8330	6990	7710	8330	7150	5770	4490	4120	4240	3790	2130
22	3910	6640	e5700	8940	6640	6350	6080	3490	3450	3430	3900	3080
23	9500	6690	e6900	9500	6690	6030	7230	6190	2560	3830	2660	3710
24	8420	5670	e6000	8420	5670	5540	5470	6720	4130	3930	1790	3530
25	9100	7280	e5600	9100	7280	6310	7040	3570	3810	3740	3830	2600
26	13600	6420	e6100	13600	6420	6120	6070	4710	4020	1640	3960	3790
27	12800	6620	e5700	12800	6620	5990	5550	3700	4090	1730	3830	2280
28	14500	6290	e11900	14500	6290	5940	6740	3590	2040	3440	3900	2410
29	14200	6260	e17700	14200	---	6720	5420	3890	1840	3380	3750	3850
30	13800	6320	e21800	13800	---	5970	5120	3880	3420	3850	2270	2930
31	13900	---	e32600	13900	---	5220	---	3890	---	4000	2110	---
TOTAL	181810	260490	250360	451190	247910	185940	164420	134340	110190	101248	100117	95462
MEAN	5865	8683	8076	14550	8854	5998	5481	4334	3673	3266	3230	3182
MAX	14500	13800	32600	40200	13800	7150	7230	6720	4940	4880	4630	5990
MIN	1880	5670	4420	6200	5670	4420	2550	1560	1800	588	967	252
AC-FT	360600	516700	496600	894900	491700	368800	326100	266500	218600	200800	198600	189300
a	15356	15225	14079	15408	13734	14914	14304	11782	14329	15043	15147	14354
b	183500	238900	390000	416800	398500	355900	313300	248700	212800	201300	201700	190000
c	33630	33584	33723	33816	31856	33215	33078	26012	30707	33399	33677	33723

e Estimated.

a Contents, in acre-feet, at end of month for Pit No. 6 Reservoir (station 11364100), provided by Pacific Gas & Electric Co.

b Discharge, in acre-feet, for Pit No. 6 Powerplant (station 11364150), provided by Pacific Gas & Electric Co.

c Contents, in acre-feet, at end of month for Pit No. 7 Reservoir (station 11364700), provided by Pacific Gas & Electric Co.

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1965, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2643	2828	3821	4320	5592	5331	5711	4297	3127	2376	2231	2284
MAX	5999	3710	9541	11240	12970	8212	13350	7380	5044	3037	2651	2744
(WY)	1963	1951	1956	1956	1958	1956	1952	1952	1953	1958	1958	1959
MIN	2112	2232	2219	2137	2500	3225	3404	2299	2353	1935	1971	1899
(WY)	1950	1950	1950	1949	1948	1964	1947	1947	1950	1949	1947	1949

SUMMARY STATISTICS	WATER YEARS 1945 - 1965	
ANNUAL TOTAL		
ANNUAL MEAN	3704	
HIGHEST ANNUAL MEAN	5529	1956
LOWEST ANNUAL MEAN	2658	1947
HIGHEST DAILY MEAN	32100	Dec 23 1955
LOWEST DAILY MEAN	150	Jul 19 1965
ANNUAL SEVEN-DAY MINIMUM	1610	Jul 19 1965
INSTANTANEOUS PEAK FLOW	37100	Dec 23 1955
INSTANTANEOUS PEAK STAGE	14.12	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	2684000	
10 PERCENT EXCEEDS	6080	
50 PERCENT EXCEEDS	3010	
90 PERCENT EXCEEDS	1740	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3381	4104	4746	6563	7050	8040	6566	5367	3916	3248	3087	3074
MAX	5865	8683	9814	20890	18670	16030	12920	11900	6237	4297	4187	3966
(WY)	1997	1997	1982	1970	1986	1983	1982	1995	1971	1974	1983	1974
MIN	2286	2533	2408	2632	2784	3241	2626	2404	2268	2291	2049	1428
(WY)	1993	1993	1991	1991	1991	1977	1977	1992	1992	1994	1992	1966

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	2408224		2283477			
ANNUAL MEAN	6580		6256		4918	
HIGHEST ANNUAL MEAN					7693	1974
LOWEST ANNUAL MEAN					2808	1992
HIGHEST DAILY MEAN	32600	Dec 31	40200	Jan 3	53900	Jan 23 1970
LOWEST DAILY MEAN	584	Aug 11	252	Sep 7	30	Jul 12 1975
ANNUAL SEVEN-DAY MINIMUM	2930	Sep 6	2730	Sep 7	939	Sep 5 1966
INSTANTANEOUS PEAK FLOW			unknown	Jan 4	73000	Jan 24 1970
INSTANTANEOUS PEAK STAGE			unknown	Jan 4	74.65	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	4777000		4529000		3563000	
10 PERCENT EXCEEDS	11800		11000		8430	
50 PERCENT EXCEEDS	5900		5430		3990	
90 PERCENT EXCEEDS	2760		2600		2060	

11367500 McCLOUD RIVER NEAR McCLOUD, CA

LOCATION.--Lat 41°11'18", long 122°03'52", in NW 1/4 NE 1/4 sec.34, T.39 N., R.2 W., Siskiyou County, Hydrologic Unit 18020004, on right bank 0.4 mi downstream from Angel Creek and 6 mi southeast of McCloud.

DRAINAGE AREA.--358 mi^2.

PERIOD OF RECORD.--April 1931 to current year.

REVISED RECORDS.--WSP 843: 1936(M). WSP 1445: 1940(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,711.2 ft above sea level, from river-profile map.

REMARKS.--Two small diversions upstream from station for irrigation, and one 22-in. pipeline for town of McCloud. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft^3/s, Jan. 1, 1997, gage height, 11.22 ft, from rating curve extended above 8,800 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 524 ft^3/s, Nov. 23, 24, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0600	3,740	4.54	Jan. 1	0915	15,400	11.22

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	764	770	796	11900	1420	1070	1020	1000	893	862	824	809
2	793	770	739	6500	1370	1100	1010	998	892	862	823	809
3	791	770	734	3610	1320	1080	1000	990	900	859	822	808
4	791	770	737	2480	1290	1060	1000	982	923	855	822	806
5	790	767	743	1990	1270	1050	995	977	911	852	821	806
6	789	765	744	1700	e1270	1050	988	973	899	850	821	806
7	788	764	766	1560	e1270	1050	985	967	895	849	821	804
8	788	764	1010	1460	e1260	1040	981	964	889	847	821	804
9	787	761	1800	1390	e1250	1040	978	961	886	847	821	804
10	785	759	3240	1320	e1230	1040	972	956	885	846	820	803
11	783	759	1900	1280	e1200	1040	971	953	890	845	819	803
12	784	758	1720	1230	e1180	1040	966	950	898	844	818	803
13	783	758	1800	1190	e1170	1020	966	943	888	843	817	801
14	782	758	1440	1150	e1160	1010	962	936	882	841	816	815
15	782	758	1230	1130	e1160	1010	968	932	877	840	816	815
16	782	759	1120	1110	e1150	1030	980	929	873	839	815	805
17	782	763	1050	1110	e1140	1080	982	927	871	838	814	805
18	783	793	1000	1100	e1130	1090	1000	922	870	837	814	805
19	782	1040	968	1090	e1130	1070	1170	920	869	836	813	802
20	782	1250	946	1080	e1120	1070	1220	916	868	834	835	799
21	780	1010	934	1090	1110	1080	1200	912	866	834	822	799
22	780	1120	926	1080	1100	1070	1160	910	865	834	816	799
23	779	1070	901	1060	1090	1070	1140	916	862	833	815	798
24	782	918	882	1040	1080	1060	1100	919	860	832	819	798
25	779	875	875	1070	1080	1050	1060	910	859	832	815	798
26	775	846	887	1490	1080	1050	1050	906	859	832	814	797
27	772	826	897	1650	1090	1050	1030	903	858	830	812	796
28	772	818	1110	1600	1080	1050	1030	901	858	829	811	795
29	787	807	2620	1550	---	1040	1030	899	860	829	811	796
30	779	798	4550	1440	---	1040	1010	896	870	829	810	795
31	773	---	9700	1400	---	1030	---	894	---	826	810	---
TOTAL	24249	25144	48765	59850	33200	32630	30924	29062	26376	26066	25348	24083
MEAN	782	838	1573	1931	1186	1053	1031	937	879	841	818	803
MAX	793	1250	9700	11900	1420	1100	1220	1000	923	862	835	815
MIN	764	758	734	1040	1080	1010	962	894	858	826	810	795
AC-FT	48100	49870	96730	118700	65850	64720	61340	57640	52320	51700	50280	47770

e Estimated.

11367500 McCLOUD RIVER NEAR McCLOUD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	761	786	861	903	970	1042	1120	1116	943	830	792	770
MAX	1030	1569	1879	2348	2155	2220	1896	2182	1549	1219	1101	1059
(WY)	1984	1974	1956	1970	1958	1983	1974	1938	1938	1983	1983	1983
MIN	536	537	534	539	549	568	674	606	574	561	556	544
(WY)	1933	1933	1933	1933	1933	1935	1994	1992	1992	1934	1992	1932

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1931 - 1997	
ANNUAL TOTAL	380608		385697			
ANNUAL MEAN	1040		1057		910	
HIGHEST ANNUAL MEAN					1406	1974
LOWEST ANNUAL MEAN					589	1992
HIGHEST DAILY MEAN	9700	Dec 31	11900	Jan 1	11900	Jan 1 1997
LOWEST DAILY MEAN	734	Dec 3	734	Dec 3	524	Nov 23 1932
ANNUAL SEVEN-DAY MINIMUM	751	Dec 1	751	Dec 1	528	Nov 20 1932
INSTANTANEOUS PEAK FLOW			15400	Jan 1	15400	Jan 1 1997
INSTANTANEOUS PEAK STAGE			11.22	Jan 1	11.22	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	754900		765000		659100	
10 PERCENT EXCEEDS	1270		1240		1240	
50 PERCENT EXCEEDS	875		895		835	
90 PERCENT EXCEEDS	767		782		604	

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CA

LOCATION.--Lat 41°08'06", long 122°04'26", in SE 1/4 SW 1/4 sec.22, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank of Lake McCloud, 8.8 mi southeast of McCloud.

PERIOD OF RECORD.--December 1965 to current year.

REVISED RECORDS.--WDR CA-75-4: 1973.

GAGE.--None. Water-stage recorders on Iron Canyon Reservoir and Lake McCloud (stations 11363920 and 11367740) used to compute record.

REMARKS.--Water is diverted from Lake McCloud (station 11367740) via tunnel to Iron Canyon Reservoir (station 11363920) and then via penstock into James B. Black Powerplant (station 11363910) on the Pit River. Diversion began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,890 ft^3/s, several days during May and June 1967; no flow several days in 1965-68, 1971, 1978.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	690	633	942	1220	1370	1250	1090	845	737	770	701	732
2	661	626	907	680	1340	1250	1090	829	762	793	692	717
3	657	614	924	639	1340	1210	1070	785	743	818	697	759
4	659	626	911	635	1390	1220	1080	808	790	779	712	785
5	642	600	887	678	1380	1190	1070	835	828	717	724	800
6	627	622	935	694	1380	1190	1050	842	862	670	729	809
7	652	610	998	716	1390	1140	1050	860	859	692	742	790
8	646	642	1070	743	1380	1060	1070	832	822	706	717	778
9	668	626	1160	796	1380	1060	1040	787	834	707	696	778
10	689	580	1290	867	1360	1050	1030	759	821	696	689	779
11	685	622	1380	943	1360	1000	997	701	841	706	692	825
12	646	620	1380	988	1370	999	998	668	836	678	706	800
13	641	612	1420	1020	1350	981	1010	668	839	673	699	706
14	627	624	1380	1010	1350	1020	1010	684	839	697	729	629
15	639	614	1410	993	1350	1010	929	702	808	717	750	627
16	624	612	1380	981	1320	986	903	696	821	732	764	655
17	641	627	1400	998	1340	994	864	657	819	714	756	648
18	644	626	1330	1030	1270	988	906	635	808	721	756	631
19	616	745	1290	1080	1300	1020	893	646	818	706	773	668
20	627	870	1330	1110	1320	1000	944	682	816	697	776	616
21	639	947	1340	1150	1310	1020	967	702	781	719	768	608
22	653	969	1310	1190	1280	1020	954	685	782	704	790	633
23	627	1020	1320	1240	1290	1020	984	684	790	702	815	646
24	624	993	1290	1310	1290	1010	957	729	787	717	794	673
25	622	979	1270	1330	1280	980	925	726	788	730	797	666
26	633	1020	1280	1340	1260	984	927	735	790	696	785	629
27	659	1010	1240	1380	1260	1010	919	730	803	673	776	557
28	655	976	1230	1390	1260	1070	935	730	773	670	773	564
29	648	985	1290	1400	---	1120	902	751	778	666	787	642
30	633	954	1320	1400	---	1110	867	767	773	684	742	629
31	627	---	1220	1410	---	1100	---	750	---	694	739	---
TOTAL	20001	22604	37834	32361	37270	33062	29431	22910	24148	22044	23066	20779
MEAN	645	753	1220	1044	1331	1067	981	739	805	711	744	693
MAX	690	1020	1420	1410	1390	1250	1090	860	862	818	815	825
MIN	616	580	887	635	1260	980	864	635	737	666	689	557
AC-FT	39670	44840	75040	64190	73930	65580	58380	45440	47900	43720	45750	41220

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	653	670	809	873	951	1096	1125	1014	890	776	743	706
MAX	1028	1205	1362	1451	1583	1592	1624	1729	1854	1305	1150	1123
(WY)	1984	1984	1974	1970	1970	1970	1966	1967	1967	1967	1971	1983
MIN	.000	.000	333	383	439	562	445	388	416	409	343	383
(WY)	1966	1966	1992	1992	1991	1991	1990	1977	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	344619		325510			
ANNUAL MEAN	942		892		858	
HIGHEST ANNUAL MEAN					1260	1967
LOWEST ANNUAL MEAN					453	1992
HIGHEST DAILY MEAN	1470	Feb 26	1420	Dec 13	1890	May 20 1967
LOWEST DAILY MEAN	569	Jan 31	557	Sep 27	.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	612	Nov 10	612	Nov 10	.00	Oct 1 1965
ANNUAL RUNOFF (AC-FT)	683600		645600		621800	
10 PERCENT EXCEEDS	1350		1320		1400	
50 PERCENT EXCEEDS	861		800		792	
90 PERCENT EXCEEDS	633		633		474	

11367760 McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD, CA

LOCATION.--Lat 41°07'44", long 122°04'08", in SW 1/4 NE 1/4 sec.27, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank 0.1 mi downstream from Lizard Creek, 0.6 mi downstream from McCloud Dam, and 9 mi southeast of McCloud.

DRAINAGE AREA.--404 mi^2.

PERIOD OF RECORD.--April 1966 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Datum of gage is 2,398.76 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to Apr. 7, 1972, at datum 3.00 ft higher.

REMARKS.--Low flow regulated by Lake McCloud (station 11367740) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (station 11363920) in Pit River basin. This station records fishwater release. The minimum release requirement is 40 ft^3/s at all times. Prior to water year 1974, flow was computed up to 400 ft^3/s. During water years 1975-81, because of channel changes, flow was computed up to 200 ft^3/s. Currently, because of maximum required release, flow is computed to 220 ft^3/s. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	202	200	---	---	107	105	144	183	185	184	201
2	200	203	201	---	---	111	106	144	183	185	184	200
3	199	202	202	---	124	111	106	144	184	185	184	199
4	197	203	202	---	72	111	106	134	182	185	184	198
5	197	202	203	---	71	110	109	134	174	185	184	198
6	199	203	203	---	70	110	111	133	171	185	184	197
7	206	203	195	---	68	110	111	133	171	185	184	197
8	207	203	98	---	66	110	115	133	172	185	184	196
9	207	203	99	---	71	110	128	133	170	185	184	196
10	206	201	106	---	74	110	134	133	170	185	184	195
11	207	202	83	68	67	110	134	133	171	185	184	195
12	206	202	---	88	70	110	134	134	170	185	184	194
13	206	203	---	117	68	110	134	134	171	185	184	193
14	206	202	---	117	67	112	134	134	173	185	184	193
15	206	202	---	118	68	115	136	142	172	185	184	192
16	206	202	133	118	66	114	135	171	175	185	184	193
17	206	202	---	119	66	104	138	171	183	185	184	194
18	206	167	86	119	66	103	144	170	184	185	185	193
19	207	91	83	119	67	102	144	170	185	185	185	194
20	206	65	80	119	68	95	145	170	184	185	184	194
21	206	94	80	119	67	95	145	171	184	185	185	194
22	203	143	77	118	70	95	145	171	184	184	185	194
23	202	148	82	117	75	95	145	172	184	184	185	194
24	202	147	87	116	78	95	145	174	184	184	185	194
25	202	149	90	116	82	98	145	174	184	183	186	194
26	202	156	90	130	82	98	144	177	185	184	186	194
27	202	187	76	113	82	98	144	179	185	184	185	194
28	202	199	60	79	99	98	144	180	185	184	185	195
29	204	197	91	95	---	102	144	181	185	184	185	195
30	203	200	---	---	---	103	144	182	185	184	185	196
31	202	---	---	---	---	103	---	182	---	183	188	---
TOTAL	6310	5383	---	---	---	3255	3954	4837	5373	5723	5722	5856
MEAN	204	179	---	---	---	105	132	156	179	185	185	195
MAX	207	203	---	---	---	115	145	182	185	185	188	201
MIN	197	65	---	---	---	95	105	133	170	183	184	192
AC-FT	12520	10680	---	---	---	6460	7840	9590	10660	11350	11350	11620

11367800 McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD, CA

LOCATION.--Lat 41°06'39", long 122°05'42", in NE 1/4 SW 1/4 sec.33, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on right bank at Ah-Di-Na, 1.8 mi downstream from Squirrel Creek, 3.9 mi downstream from McCloud Dam, and 9.6 mi south of McCloud.

DRAINAGE AREA.--427 mi^2.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,160 ft above sea level, from topographic map.

REMARKS.--Low flow completely regulated by Lake McCloud (station 11367740) 3.9 mi upstream since November 1965. Diversion to Iron Canyon Reservoir (station 11363920) through McCloud-Iron Canyon diversion tunnel (station 11367720) started Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins. This station records fishwater release. The minimum release requirements range from 160 to 210 ft^3/s per schedule outlined in Federal Energy Regulatory Commission License 2106. See schematic diagram of Pit and McCloud River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Prior to completion of McCloud Dam in 1965, maximum discharge, 9,660 ft^3/s, Dec. 22, 1964, gage height, 9.43 ft, from rating curve extended above 2,500 ft^3/s; minimum daily, 86 ft^3/s, Oct. 1-26, 1964. Since completion of McCloud Dam, maximum discharge, 31,700 ft^3/s, Jan. 1, 1997, gage height, 14.77 ft, from rating curve extended above 8,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 41 ft^3/s, Dec. 18-20, 1971 (caused by valve malfunction at McCloud Dam).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of 12.5 ft, discharge, 17,800 ft^3/s, from rating curve extended above 2,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 1	1230	31,700	14.77				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	223	242	25200	556	189	169	196	214	220	225	237
2	198	221	237	11600	504	205	168	196	214	221	225	236
3	220	220	235	5410	335	196	167	193	222	219	225	235
4	220	220	237	3410	268	193	168	193	227	219	225	234
5	220	220	253	2080	250	191	169	191	212	219	225	233
6	220	220	251	1680	234	189	170	191	208	218	224	233
7	222	220	358	1570	222	189	169	185	208	218	224	233
8	223	220	593	1370	210	187	170	180	208	220	224	232
9	223	220	1180	1030	207	185	184	179	206	221	224	231
10	223	219	1700	594	204	184	191	179	206	222	225	231
11	223	220	819	253	190	184	191	179	207	222	225	230
12	223	220	748	260	188	184	189	179	206	222	225	230
13	223	220	1330	281	182	181	189	179	204	222	225	230
14	223	220	920	272	177	183	189	178	206	224	225	242
15	223	220	451	263	173	186	190	180	206	225	224	237
16	223	221	371	261	171	193	188	209	207	225	225	233
17	223	226	325	259	184	203	186	208	211	225	225	233
18	224	268	250	252	176	196	186	209	211	225	225	233
19	223	390	227	247	174	189	186	209	212	224	224	230
20	223	285	211	245	171	180	186	209	214	224	236	230
21	223	231	199	252	167	177	200	209	214	223	226	230
22	222	412	193	246	166	176	217	210	214	224	225	230
23	220	328	185	239	169	174	218	213	214	224	225	230
24	221	260	183	234	168	172	217	212	214	225	228	230
25	221	231	183	254	171	172	214	211	214	225	225	230
26	220	220	189	630	170	172	209	211	217	225	225	230
27	220	239	232	622	167	170	208	212	217	224	224	230
28	220	244	582	542	177	169	206	212	217	224	223	230
29	237	238	1750	492	---	170	206	212	217	225	222	230
30	226	241	5820	645	---	170	198	213	223	225	222	230
31	224	---	17000	579	---	169	---	214	---	225	226	---
TOTAL	6852	7337	37454	61272	6131	5678	5698	6151	6370	6904	6976	6963
MEAN	221	245	1208	1977	219	183	190	198	212	223	225	232
MAX	237	412	17000	25200	556	205	218	214	227	225	236	242
MIN	198	219	183	234	166	169	167	178	204	218	222	230
AC-FT	13590	14550	74290	121500	12160	11260	11300	12200	12630	13690	13840	13810

11367800 McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	252	286	321	470	404	481	356	336	249	225	223	234
MAX	919	1140	1863	2211	1770	2107	2102	1498	1173	1035	992	954
(WY)	1966	1974	1965	1970	1986	1983	1965	1965	1965	1965	1965	1965
MIN	180	182	93.2	93.4	119	167	166	162	160	159	155	182
(WY)	1978	1978	1972	1972	1972	1977	1968	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	137940		163786			
ANNUAL MEAN	377		449		319	
HIGHEST ANNUAL MEAN					1326	1965
LOWEST ANNUAL MEAN					168	1977
HIGHEST DAILY MEAN	17000	Dec 31	25200	Jan 1	25200	Jan 1 1997
LOWEST DAILY MEAN	166	Jan 5	166	Feb 22	41	Dec 18 1971
ANNUAL SEVEN-DAY MINIMUM	167	Jan 2	168	Feb 21	42	Dec 15 1971
INSTANTANEOUS PEAK FLOW			31700	Jan 1	31700	Jan 1 1997
INSTANTANEOUS PEAK STAGE			14.77	Jan 1	14.77	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	273600		324900		231400	
10 PERCENT EXCEEDS	431		326		477	
50 PERCENT EXCEEDS	219		221		206	
90 PERCENT EXCEEDS	178		179		168	

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CA

LOCATION.--Lat 40°57'30", long 122°13'07", unsurveyed, T.36 N., R.3 W., Shasta County, Hydrologic Unit 18020004, on right bank just upstream from Shasta Lake, 0.2 mi downstream from Big Bollibokka Creek, and 11.3 mi east of Lamoine.

DRAINAGE AREA.--604 mi^2.

PERIOD OF RECORD.--October 1945 to current year. Prior to 1950, published as "above Shasta Reservoir."
TEMPERATURE: Water years 1956-59.

REVISED RECORDS.--WSP 1445: 1953(M). WSP 1931: Drainage area. WDR CA-94-4: 1993(P).

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Low flow completely regulated by Lake McCloud (station 11367740) 16.5 mi upstream since Nov. 3, 1965. Diversions to Iron Canyon Reservoir (station 11363920) began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,300 ft^3/s, Jan. 1, 1997, gage height, 29.00 ft, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 109 ft^3/s, Dec. 16-20, 1971. Minimum prior to regulation by Lake McCloud, 825 ft^3/s, Jan. 3, 1950.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	1445	12,300	19.31	Jan. 26	1315	6,600	16.73
Jan. 1	0345	51,300	29.00				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	331	346	496	45000	2240	558	405	483	396	391	304	306
2	330	340	467	23300	2010	709	405	471	389	378	303	306
3	328	336	452	12000	1690	607	398	459	444	362	302	305
4	329	336	490	7780	1440	580	395	441	553	352	301	305
5	328	334	695	5360	1300	567	389	429	433	345	299	305
6	327	331	654	4190	1190	557	388	419	401	341	298	304
7	327	335	1430	3750	1110	543	381	411	392	332	297	301
8	327	332	3710	3280	1030	529	378	401	385	328	294	300
9	327	331	7960	2840	970	515	393	394	382	326	295	299
10	327	330	9720	2250	943	507	396	389	381	326	293	302
11	327	329	4760	1570	876	504	394	383	390	325	295	299
12	329	329	3680	1450	834	491	389	379	377	324	294	299
13	330	331	3930	1370	788	478	387	377	371	324	291	298
14	328	329	2940	1260	754	472	383	378	371	321	291	361
15	328	327	1980	1180	724	475	380	376	369	320	289	363
16	327	331	1560	1110	705	528	377	412	364	319	288	330
17	331	375	1310	1060	767	652	376	417	367	317	291	323
18	341	975	1100	998	696	583	445	411	367	316	290	321
19	344	2080	969	954	683	550	656	408	364	313	289	314
20	336	1680	894	943	657	537	744	405	363	311	387	309
21	336	1030	844	1100	633	510	742	403	362	311	335	309
22	338	1890	838	1130	609	496	677	400	358	311	309	305
23	337	1360	801	1040	597	480	708	426	354	310	305	305
24	346	887	765	992	581	464	658	425	350	310	314	305
25	343	693	740	1220	577	450	613	405	346	309	305	305
26	334	590	825	5190	566	448	579	398	345	308	305	305
27	331	555	1460	4510	556	435	548	400	345	306	305	303
28	328	539	3820	3890	547	427	530	399	344	306	304	301
29	460	506	9630	3260	---	421	515	397	349	305	300	300
30	387	487	14100	2810	---	421	500	393	428	307	297	301
31	356	---	31100	2470	---	416	---	393	---	306	298	---
TOTAL	10498	18974	114120	149257	26073	15910	14529	12682	11440	10060	9368	9289
MEAN	339	632	3681	4815	931	513	484	409	381	325	302	310
MAX	460	2080	31100	45000	2240	709	744	483	553	391	387	363
MIN	327	327	452	943	547	416	376	376	344	305	288	298
AC-FT	20820	37630	226400	296100	51720	31560	28820	25150	22690	19950	18580	18420

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1965, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1121	1252	2080	2077	2617	2177	2467	1965	1460	1159	1059	1020
MAX	1899	2162	6513	4525	7493	3966	4599	2978	2248	1715	1489	1395
(WY)	1951	1951	1956	1953	1958	1958	1963	1958	1958	1958	1958	1958
MIN	856	870	856	903	1040	1265	1320	1085	1069	901	852	839
(WY)	1950	1950	1950	1949	1948	1964	1964	1947	1949	1950	1950	1950

SUMMARY STATISTICS	WATER YEARS 1946 - 1965	
ANNUAL MEAN	1699	
HIGHEST ANNUAL MEAN	2703	1958
LOWEST ANNUAL MEAN	1213	1950
HIGHEST DAILY MEAN	36100	Dec 21 1955
LOWEST DAILY MEAN	825	Jan 3 1950
ANNUAL SEVEN-DAY MINIMUM	826	Oct 9 1950
INSTANTANEOUS PEAK FLOW	a45200	Dec 22 1955
INSTANTANEOUS PEAK STAGE	28.20	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	1231000	
10 PERCENT EXCEEDS	2670	
50 PERCENT EXCEEDS	1270	
90 PERCENT EXCEEDS	928	

a from rating curve extended above 6,400 ft^3/s on basis of slope-area measurement of peak flow.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	306	581	872	1467	1400	1626	938	655	409	316	280	286
MAX	468	4068	3681	6043	5118	5825	2794	1930	952	443	372	340
(WY)	1990	1974	1997	1970	1986	1983	1982	1983	1983	1983	1983	1983
MIN	206	227	235	222	232	248	226	232	215	200	192	200
(WY)	1992	1992	1977	1991	1977	1977	1977	1977	1977	1977	1991	1991

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1967 - 1997	
ANNUAL TOTAL	411300		402200			
ANNUAL MEAN	1124		1102		759	
HIGHEST ANNUAL MEAN					1720	1974
LOWEST ANNUAL MEAN					230	1977
HIGHEST DAILY MEAN	31100	Dec 31	45000	Jan 1	45000	Jan 1 1997
LOWEST DAILY MEAN	325	Aug 30	288	Aug 16	109	Dec 16 1971
ANNUAL SEVEN-DAY MINIMUM	327	Oct 5	290	Aug 13	113	Dec 15 1971
INSTANTANEOUS PEAK FLOW			51300	Jan 1	51300	Jan 1 1997
INSTANTANEOUS PEAK STAGE			29.00	Jan 1	29.00	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	815800		797800		549800	
10 PERCENT EXCEEDS	2090		1500		1460	
50 PERCENT EXCEEDS	527		394		356	
90 PERCENT EXCEEDS	331		305		246	

11370000 SHASTA LAKE NEAR REDDING, CA

LOCATION.--Lat 40°43'08", long 122°25'12", in SE 1/4 NW 1/4 sec.15, T.33 N., R.5 W., Shasta County, Hydrologic Unit 18020005, in Shasta Dam on Sacramento River near right bank, 2 mi downstream from Squaw Creek, and 9.5 mi north of Redding.

DRAINAGE AREA.--6,421 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--November 1942 to current year. Prior to 1950, published as Shasta Reservoir near Redding.
CHEMICAL DATA: Water years 1978-80.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Prior to July 10, 1944, nonrecording gage at various sites near dam at same datum. Contents based on capacity table dated May 8, 1967, provided by U.S. Bureau of Reclamation.

REMARKS.--Lake is formed by concrete gravity-type dam completed in 1949; regulation began Dec. 30, 1943. Usable capacity, 4,436,400 acre-ft between elevations 737.75 ft, invert of lowest set of river outlets, and 1,067.0 ft, top of flashboard gates on drum-type spillway gates. Operating pool from elevation, 840.0 ft, capacity, 587,127 acre-ft to 1,067.0 ft, capacity, 4,552,090 acre-ft. Dead storage, 115,800 acre-ft. Installation of flashboard gates on top of drum gates completed Nov. 12, 1964. All water passes down the Sacramento River, most of which is through powerplant at dam. Figures given represent total contents at 2400 hours. Lake is used for flood control, power generation, irrigation, and recreation. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 4,550,300 acre-ft, May 19, 1967, elevation, 1,066.94 ft; minimum since first filling, 562,600 acre-ft, Sept. 13, 1977, elevation, 836.68 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 4,414,072 acre-ft, Jan. 3, elevation, 1,062.32 ft; minimum, 2,308,340 acre-ft, Sept. 30, elevation, 974.40 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by U.S. Bureau of Reclamation, dated May 8, 1967)

830	515,543	870	843,589	910	1,291,854	950	1,876,996	990	2,616,622	1,030	3,533,478
840	587,127	880	943,929	920	1,424,780	960	2,046,829	1,000	2,828,544	1,050	4,063,108
850	665,511	890	1,051,713	930	1,566,238	970	2,226,093	1,010	3,051,750	1,067	4,552,090
860	751,027	900	1,167,888	940	1,717,255	980	2,416,019	1,020	3,286,929		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3089041	3070588	3188572	4251385	3463701	3584539	3806355	3939518	3826776	3454235	2929100	2543578
2	3088118	3069210	3187629	4402695	3461705	3596567	3810326	3942229	3820392	3438338	2912203	2532829
3	3087193	3065533	3190693	4414072	3463451	3605523	3816149	3943315	3819060	3425463	2888764	2525186
4	3089504	3062777	3203724	4379728	3462205	3614506	3820921	3946568	3818530	3407917	2871586	2519352
5	3086501	3061628	3212254	4342083	3448523	3622993	3826243	3949279	3812973	3387998	2855812	2511328
6	3086732	3059332	3218194	4324999	3435357	3631480	3830235	3950636	3807150	3366202	2840311	2494129
7	3085808	3059102	3236538	4291239	3418295	3638698	3835554	3949822	3800797	3353022	2823116	2477020
8	3084422	3060710	3277302	4236253	3406689	3647484	3840610	3949551	3792855	3337685	2806184	2466526
9	3083499	3059790	3384554	4184013	3400048	3651362	3843802	3947654	3785172	3321443	2788908	2458811
10	3085116	3059790	3464951	4120457	3393654	3656788	3848068	3940875	3778019	3303316	2770631	2450530
11	3086964	3056575	3472937	4054266	3391931	3663519	3850740	3932739	3767691	3287653	2755426	2443251
12	3087425	3052440	3467446	3980049	3395374	3669495	3852077	3926504	3756349	3266712	2742609	2438333
13	3085577	3050836	3469692	3902756	3401276	3675729	3853683	3924075	3743171	3248018	2727946	2426386
14	3084885	3049236	3450757	3824379	3412363	3680922	3853683	3919486	3730303	3231058	2714172	2416801
15	3085116	3048094	3434366	3746861	3424721	3687415	3853683	3914361	3710124	3214623	2702126	2411343
16	3086270	3048550	3422250	3684558	3438089	3696550	3855820	3910042	3692634	3197562	2687402	2405499
17	3086964	3050150	3409892	3638698	3452000	3708298	3856355	3903296	3677025	3181498	2673140	2400043
18	3086039	3070818	3399310	3597335	3461955	3714830	3864371	3893609	3661702	3165240	2663106	2392275
19	3085116	3102692	3386028	3557550	3477432	3722958	3867046	3889580	3646194	3145303	2653516	2388206
20	3082805	3125464	3375988	3532216	3491703	3730303	3875613	3885013	3632252	3125464	2646239	2378907
21	3079573	3138531	3364489	3506007	3506258	3739744	3885819	3880449	3617850	3110121	2637507	2370806
22	3080034	3158438	3351805	3473937	3515830	3747388	3897101	3872928	3601687	3092506	2629649	2364257
23	3079573	3169471	3344015	3440575	3525913	3753977	3907615	3874269	3583009	3075646	2619103	2359826
24	3079342	3175838	3337685	3400294	3532973	3758720	3914091	3872928	3568750	3058183	2607574	2353495
25	3076109	3180553	3335251	3387506	3545387	3765572	3921914	3864906	3554005	3041923	2599966	2345834
26	3074033	3182204	3338903	3454235	3555777	3771927	3925692	3859027	3539559	3021848	2593605	2341429
27	3073345	3182676	3336224	3491201	3565694	3777227	3929214	3852612	3522887	3004126	2587060	2333604
28	3070818	3184563	3362776	3512804	3574861	3782524	3934907	3846198	3502494	2988523	2580925	2325414
29	3074493	3186685	3440824	3508013	---	3789942	3935179	3842471	3484680	2973874	2575405	2314020
30	3072885	3187863	3558311	3492457	---	3796031	3937079	3837947	3470692	2960377	2565893	2308340
31	3072426	---	3840610	3475933	---	3799738	---	3832628	---	2944938	2554758	---
MAX	3089504	3187863	3840610	4414072	3574861	3799738	3937079	3950636	3826776	3454235	2929100	2543578
MIN	3070818	3048094	3187629	3387506	3391931	3584539	3806355	3832628	3470692	2944938	2554758	2308340
a	1010.90	1015.85	1041.81	1027.71	1031.63	1040.27	1045.40	1041.51	1027.50	1005.28	986.97	974.40
b	-16384	+115437	+652747	-364677	+98928	+224877	+137341	-104451	-361936	-525754	-390180	-246418

CAL YR 1996 b +572934
WTR YR 1997 b -780470

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

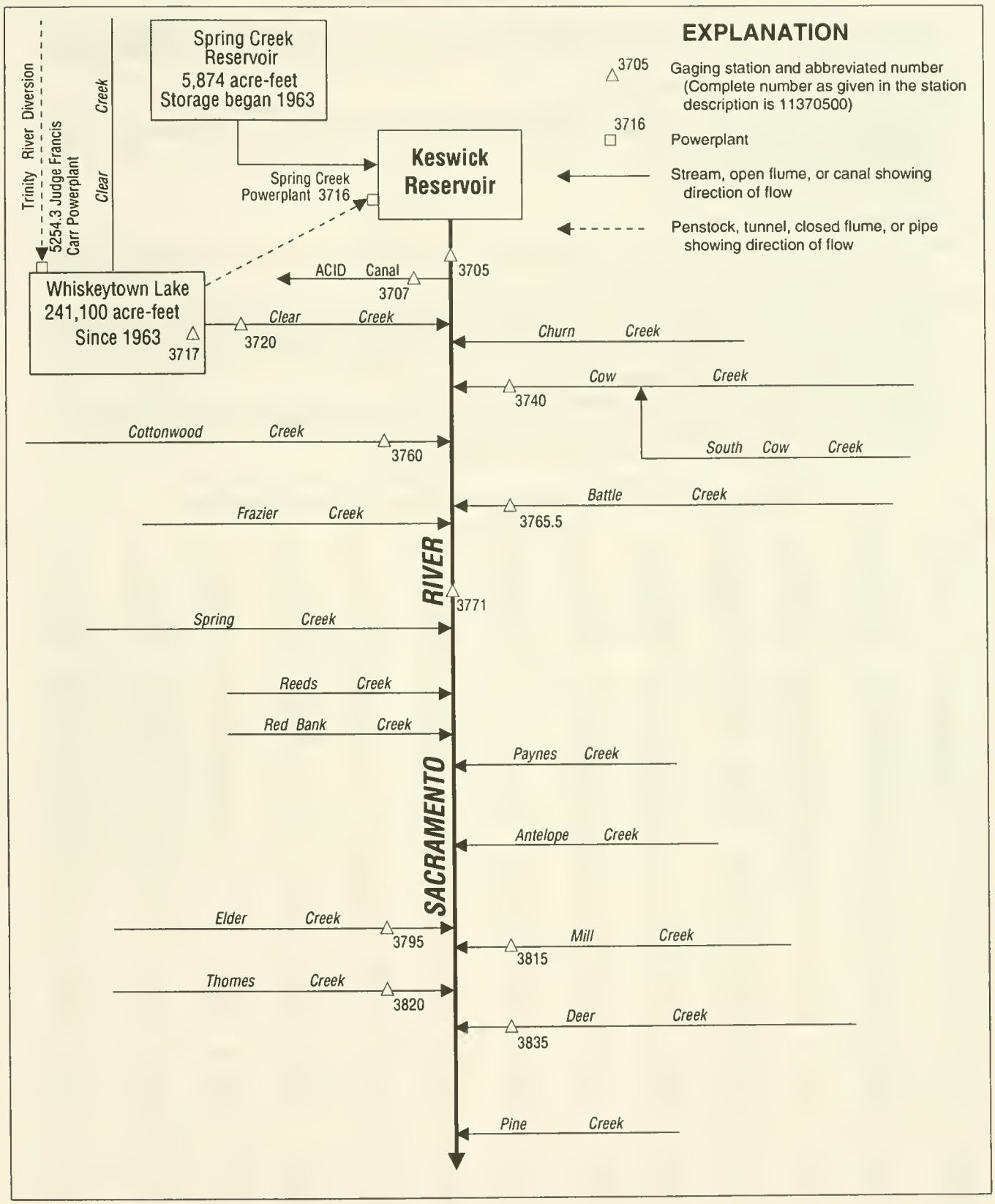

Figure 25. Diversions and storage in upper Sacramento River basin.

11370500 SACRAMENTO RIVER AT KESWICK, CA

LOCATION.--Lat 40°36'04", long 122°26'36", in SW 1/4 NW 1/4 sec.28, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020101, on right bank 0.4 mi upstream from Middle Creek, 0.8 mi downstream from Keswick Dam, 1.6 mi downstream from Keswick, and 10 mi downstream from Shasta Dam.

DRAINAGE AREA.--6,468 mi^2, excluding Goose Lake basin.

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1951-94. Published as "near Keswick" in 1951 and 1953, and as "at Keswick Dam, near Keswick" in 1968-69.
BIOLOGICAL DATA: Water years 1979-81.
SPECIFIC CONDUCTANCE: Water years 1978-94.
WATER TEMPERATURE: Water years 1978-94.
SEDIMENT DATA: Water years 1978-94.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 479.81 ft above sea level. Prior to Oct. 1, 1939, at site 1.5 mi upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 mi upstream at datum 15.2 ft higher. Aug. 20, 1960, to July 3, 1973, auxiliary water-stage recorder at city of Redding pumping plant 2.1 mi downstream.

REMARKS.--Records good. Flow completely regulated by Shasta Lake (station 11370000) beginning Dec. 30, 1943. Minor regulation by Keswick Reservoir since 1950, total capacity, 23,800 acre-ft, operational capacity, 4,170 acre-ft, between normal operating elevations of 579.0 ft and 586.0 ft. No diversion between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (station 11371700), through a tunnel to Spring Creek Powerplant (station 11371600), and then into Keswick Reservoir. See schematic diagrams of upper Sacramento River basin and Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186,000 ft^3/s, Feb. 23, 1940, gage height, 47.2 ft, site and datum then in use, from rating curve extended above 75,000 ft^3/s on basis of peak discharge at Kennet plus 4,000 ft^3/s estimated inflow; minimum observed, 2,730 ft^3/s, Aug. 22, 1939. Since regulation by Shasta Dam in 1943, maximum discharge, 81,400 ft^3/s, Apr. 1, 1974, gage height, 31.92 ft; maximum gage height, 32.71 ft, Jan. 4, 1997; minimum discharge, 154 ft^3/s, May 15, 1948.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7290	e5130	5130	20200	31300	5200	4890	8030	10300	15000	14300	9710
2	7270	5140	5140	43200	25800	5180	4930	7590	10400	15100	14200	9970
3	7270	5150	5140	66700	21400	5220	e4880	7460	10400	14700	14400	10400
4	6810	5150	5170	77900	23000	5210	e4930	7490	10300	14600	14500	10500
5	6730	5210	5180	66500	25900	5240	e4970	7640	10300	14500	14000	10600
6	6760	5200	5150	48500	26000	5170	e4530	7900	10600	14500	14000	10600
7	6730	5190	8200	49000	26100	4960	e4590	8350	10700	14200	13500	10600
8	6730	5110	13200	49500	23300	4910	e4700	8530	11200	14800	13500	9250
9	6330	5440	18700	49200	19600	4950	e4760	8480	11100	15000	13200	8670
10	5830	5340	27600	49600	16700	4970	e4750	8890	12100	15000	13000	8610
11	5470	5220	35500	50600	14100	5040	e4760	9600	12700	15200	12700	7850
12	5220	5230	35500	52300	11500	5020	e4780	9570	13600	15200	12100	7810
13	5110	5270	31400	51800	9650	5020	e5400	8890	14100	15300	11800	7860
14	5050	5110	31000	52200	8330	5010	e5860	9050	14600	15400	12100	7900
15	4890	5090	26500	49800	6890	5000	e5900	9750	15100	15200	11200	7850
16	5030	5070	23100	41700	5860	5080	e5860	9320	15000	15300	10100	7890
17	5080	5150	20400	35400	5570	5030	e6220	9010	15100	15000	9950	7330
18	5080	5300	18100	35300	5410	5010	6200	9190	15100	14900	10100	7250
19	5100	5310	17700	31400	5490	4980	6600	8880	15100	15100	10000	6900
20	5060	5190	17700	27100	5100	5140	6570	9120	14500	15000	10200	6850
21	5090	5160	17900	29100	5240	5140	6240	9610	14600	15200	9580	6890
22	5100	5210	18000	35700	5340	5130	5870	10100	14600	15400	8980	6930
23	5090	5170	15700	33400	5460	5120	5450	10100	14700	15300	8970	6880
24	5100	5160	13500	36100	5430	5080	5430	10300	14600	14900	9050	6900
25	5100	5160	11800	28200	5170	5070	6140	10400	14500	15000	9050	7000
26	5090	5170	10500	21700	5150	4980	7220	10500	14800	14800	8550	7050
27	5080	5130	19300	21400	5150	4900	7610	10300	15100	13900	8520	6940
28	e5330	5140	26600	27400	5200	4940	8020	9790	15000	14300	8010	6940
29	e5230	5140	41100	36100	---	4950	8420	9470	14900	14300	8310	6810
30	e5330	5140	48200	36400	---	4950	7990	9660	14900	14500	8610	6570
31	e5170	---	31400	36200	---	4960	---	9800	---	14400	8850	---
TOTAL	175550	155580	609510	1289600	359140	156560	174470	282770	400000	461000	345330	243310
MEAN	5663	5186	19660	41600	12830	5050	5816	9122	13330	14870	11140	8110
MAX	7290	5440	48200	77900	31300	5240	8420	10500	15100	15400	14500	10600
MIN	4890	5070	5130	20200	5100	4900	4530	7460	10300	13900	8010	6570
AC-FT	348200	308600	1209000	2558000	712400	310500	346100	560900	793400	914400	685000	482600

e Estimated.

11370500 SACRAMENTO RIVER AT KESWICK, CAÒContinued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5992	5603	6611	10610	11700	6564	6714	8212	8564	9951	10030	7331
MAX	8572	8970	16680	32870	44170	14490	21180	13400	10300	11810	11870	10030
(WY)	1959	1958	1951	1953	1958	1957	1958	1948	1948	1951	1958	1958
MIN	4785	4064	3726	3234	3060	2546	2830	5247	6437	7480	7057	5239
(WY)	1948	1952	1960	1962	1950	1950	1950	1951	1947	1947	1947	1947

SUMMARY STATISTICS	WATER YEARS 1946 - 1962	
ANNUAL MEAN	8141	
HIGHEST ANNUAL MEAN	13910	1958
LOWEST ANNUAL MEAN	5364	1950
HIGHEST DAILY MEAN	75800	Feb 21 1958
LOWEST DAILY MEAN	2360	Mar 15 1950
ANNUAL SEVEN-DAY MINIMUM	2440	Mar 9 1950
INSTANTANEOUS PEAK FLOW	78800	Feb 21 1958
INSTANTANEOUS PEAK STAGE	31.55	Feb 21 1958
INSTANTANEOUS LOW FLOW	154	May 15 1948
ANNUAL RUNOFF (AC-FT)	5898000	
10 PERCENT EXCEEDS	11600	
50 PERCENT EXCEEDS	7000	
90 PERCENT EXCEEDS	3720	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6220	7257	10050	11680	12720	11030	8958	10470	11330	12540	11580	8213
MAX	10290	23430	27340	41600	38970	47170	26840	17410	14960	14870	14330	11800
(WY)	1984	1974	1974	1997	1983	1983	1974	1995	1983	1997	1996	1971
MIN	3431	3182	2847	3258	3268	2869	3096	6953	7342	7754	8070	4564
(WY)	1978	1993	1978	1993	1990	1991	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	4585710		4652820			
ANNUAL MEAN	12530		12750		10170	
HIGHEST ANNUAL MEAN					18230	1974
LOWEST ANNUAL MEAN					5390	1992
HIGHEST DAILY MEAN	55100	Feb 24	77900	Jan 4	79700	Mar 31 1974
LOWEST DAILY MEAN	4630	Jan 6	4530	Apr 6	2360	Mar 17 1989
ANNUAL SEVEN-DAY MINIMUM	4640	Jan 6	4700	Apr 6	2460	Mar 12 1989
INSTANTANEOUS PEAK FLOW			79200	Jan 4	81400	Apr 1 1974
INSTANTANEOUS PEAK STAGE			32.71	Jan 4	32.71	Jan 4 1997
INSTANTANEOUS LOW FLOW					154	May 15 1948
ANNUAL RUNOFF (AC-FT)	9096000		9229000		7364000	
10 PERCENT EXCEEDS	24200		27200		14900	
50 PERCENT EXCEEDS	10200		8890		8500	
90 PERCENT EXCEEDS	5070		5080		3950	

11370700 ANDERSON-COTTONWOOD IRRIGATION DISTRICT CANAL AT SHARON STREET, AT REDDING, CA

LOCATION.--Lat 40°34'08", long 122°22'49", unsurveyed, Shasta County, Hydrologic Unit 18020101, on right bank of canal 10 ft upstream from Sharon Street, 900 ft downstream from Parkview Avenue, and 0.75 mi southwest of Mercy Hospital.

PERIOD OF RECORD.--April to September 1989, April 1991 to current year (beginning October 1994, irrigation season only).

GAGE.--Water-stage recorder and acoustic-velocity meter. Elevation of gage is 480 ft above sea level, from topographic map.

REMARKS.--Records good. Canal diverts from Sacramento River 0.3 mi downstream from Southern Pacific Railroad bridge and 0.1 mi upstream from Highway 273; water is used for irrigation. See schematic diagrams for upper Sacramento River basin and Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 370 ft^3/s, June 9, 1989; minimum, no flow at times each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258	---	---	---	---	---	---	261	295	288	281	285
2	256	---	---	---	---	---	---	280	294	287	280	285
3	249	---	---	---	---	---	---	299	299	290	282	288
4	242	---	---	---	---	---	---	305	299	292	282	288
5	240	---	---	---	---	---	---	307	299	291	275	287
6	235	---	---	---	---	---	---	315	289	292	299	286
7	235	---	---	---	---	---	---	327	286	291	297	285
8	239	---	---	---	---	---	---	321	288	293	293	280
9	248	---	---	---	---	---	---	321	288	297	287	276
10	245	---	---	---	---	---	---	325	290	297	286	274
11	241	---	---	---	---	---	e58	328	289	299	282	269
12	231	---	---	---	---	---	187	329	290	290	279	265
13	228	---	---	---	---	---	221	327	292	277	277	264
14	223	---	---	---	---	---	226	329	293	285	283	260
15	219	---	---	---	---	---	224	326	295	290	289	e196
16	218	---	---	---	---	---	239	322	289	289	288	218
17	207	---	---	---	---	---	294	321	288	287	288	244
18	196	---	---	---	---	---	309	323	284	285	290	244
19	192	---	---	---	---	---	309	330	282	284	288	240
20	191	---	---	---	---	---	307	330	281	283	291	243
21	191	---	---	---	---	---	309	332	282	281	288	250
22	191	---	---	---	---	---	316	333	274	282	289	252
23	187	---	---	---	---	---	310	340	263	298	289	250
24	180	---	---	---	---	---	294	340	227	299	289	249
25	172	---	---	---	---	---	264	338	77	301	288	249
26	109	---	---	---	---	---	272	337	242	301	285	248
27	29	---	---	---	---	---	296	323	282	298	283	245
28	17	---	---	---	---	---	292	307	290	296	281	245
29	---	---	---	---	---	---	257	309	296	285	281	248
30	---	---	---	---	---	---	250	308	291	282	282	251
31	---	---	---	---	---	---	---	305	---	282	282	---
TOTAL	---	---	---	---	---	---	---	9898	8334	8992	8854	7764
MEAN	---	---	---	---	---	---	---	319	278	290	286	259
MAX	---	---	---	---	---	---	---	340	299	301	299	288
MIN	---	---	---	---	---	---	---	261	77	277	275	196
AC-FT	---	---	---	---	---	---	---	19630	16530	17840	17560	15400

e Estimated.

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, Hydrologic Unit 18010212, at powerplant 1.6 mi downstream from Mill Creek and 3.8 mi south of French Gulch.

PERIOD OF RECORD.--April 1963 to current year.

GAGE.--Recorded powerplant output.

REMARKS.--Water is diverted from Trinity River at NW 1/4 SE 1/4 sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (station 11371700). See schematic diagram of upper Sacramento and Pit and McCloud River basins.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,000 ft^3/s, Oct. 18, 1987; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2565	0	356	311	265	1433	834	1738	2582	2950	2635	903
2	2258	122	251	333	332	1164	945	1720	2761	2848	2881	1294
3	2464	0	397	326	320	1345	947	1675	2545	3023	2083	0
4	2461	0	3	299	318	1488	1273	2058	2671	2884	1824	0
5	2743	0	5	314	318	2007	1162	2312	2830	2679	2173	719
6	2339	0	8	238	317	2064	843	2059	2764	2846	2271	836
7	2844	0	0	316	315	1828	176	1661	2978	3222	2511	842
8	2845	0	0	274	312	498	839	1535	2982	3224	2016	857
9	2591	0	6	318	245	321	713	1624	2486	3210	2176	887
10	1557	143	0	319	225	580	499	1686	2976	3214	1537	745
11	1158	0	8	322	241	477	630	1687	3072	3219	1551	493
12	1622	0	150	317	209	561	577	1788	3211	2884	1277	448
13	1259	0	325	318	216	531	0	1761	3024	2861	1003	0
14	873	29	354	320	736	528	748	1800	3041	2924	1018	0
15	855	0	466	315	938	0	427	1685	3034	2957	1096	496
16	880	0	328	313	1122	0	681	1803	3026	2953	1017	249
17	830	144	316	298	1006	0	2299	1974	2949	3002	1075	250
18	1194	0	314	322	890	0	2102	1848	3090	3037	1089	0
19	1004	0	262	313	882	0	2696	1681	3193	3168	911	296
20	765	0	305	316	971	0	2336	1896	2863	3172	1032	284
21	764	0	314	316	958	0	1866	1851	3093	3175	1079	295
22	0	0	316	331	977	0	1881	1809	3071	3185	876	294
23	0	0	309	345	995	14	0	1977	3041	3028	965	372
24	0	0	309	324	951	485	0	2369	3077	3055	1035	296
25	0	14	313	324	1106	0	1557	2401	3136	3090	1148	295
26	0	824	315	336	1863	1	2303	2370	3092	3082	1085	293
27	0	413	316	319	947	0	2338	2476	3074	2974	1147	301
28	0	251	365	318	988	0	1828	2537	3082	2844	998	247
29	0	348	349	318	---	0	2517	1963	2750	2837	1054	139
30	174	357	437	319	---	0	1723	2461	2900	3023	934	326
31	0	---	370	321	---	0	---	2939	---	3202	704	---
TOTAL	36045	2645	7567	9773	18963	15325	36740	61144	88394	93772	44201	12457
MEAN	1163	88.2	244	315	677	494	1225	1972	2946	3025	1426	415
MAX	2845	824	466	345	1863	2064	2696	2939	3211	3224	2881	1294
MIN	0	0	0	238	209	0	0	1535	2486	2679	704	0
AC-FT	71500	5250	15010	19380	37610	30400	72870	121300	175300	186000	87670	24710

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1358	839	688	595	820	864	1147	1330	1873	2358	2227	2096
MAX	3363	2158	2891	2755	3225	3115	3220	3515	3662	3589	3236	3504
(WY)	1988	1967	1979	1982	1974	1974	1970	1974	1969	1968	1977	1988
MIN	166	18.0	.16	.000	.34	.000	.000	.097	.63	253	507	415
(WY)	1994	1992	1993	1986	1988	1988	1978	1991	1993	1978	1992	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	540546		427026			
ANNUAL MEAN	1477		1170		1364	
HIGHEST ANNUAL MEAN					2486	1974
LOWEST ANNUAL MEAN					301	1978
HIGHEST DAILY MEAN	3257	Feb 13	3224	Jul 8	4000	Oct 18 1987
LOWEST DAILY MEAN	0	Jan 1	0	Oct 22	0	May 6 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 10	.00	Oct 22	.00	Oct 14 1969
ANNUAL RUNOFF (AC-FT)	1072000		847000		988400	
10 PERCENT EXCEEDS	3160		2980		3140	
50 PERCENT EXCEEDS	1300		842		1100	
90 PERCENT EXCEEDS	.00		.00		.00	

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in NE 1/4 SE 1/4 sec.18, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020112, at powerplant on Spring Creek, 0.4 mi northwest of Keswick, and 4.9 mi northwest of Redding.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Discharge computed from powerplant output.

REMARKS.--Water is released from Whiskeytown Lake (station 11371700) through a tunnel to powerplant and then into Keswick Reservoir. Spring Creek Reservoir releases into Keswick Reservoir at Spring Creek Powerplant. See schematic diagrams of upper Sacramento River and Pit and McCloud River basins.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,800 ft^3/s, May 2, 1983; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2394	331	298	3518	1988	1451	265	1881	2500	2938	2498	993
2	2502	264	429	295	1322	1079	267	1886	2605	2974	2500	955
3	2537	262	307	1904	762	1631	296	1884	3036	2360	2019	701
4	2507	273	291	3960	848	1461	266	1911	3685	2930	1967	1040
5	2500	274	277	3693	943	799	256	1854	2731	2899	1989	740
6	2505	265	263	3705	1988	728	256	2016	2631	2940	2050	782
7	2521	259	368	3733	2003	810	293	1667	2784	2922	2045	803
8	2465	270	1216	2481	2201	705	305	2017	2791	2938	2059	741
9	2597	589	3186	2488	1580	713	36	1912	2851	2960	1996	732
10	1958	1040	3736	1495	680	809	233	1950	2942	2944	1567	722
11	1714	150	3751	1477	260	721	19	1953	3012	2925	1495	552
12	1921	360	3743	1390	1107	727	0	1942	3134	2915	1088	245
13	1673	250	2465	1473	832	771	17	1952	2990	2905	1024	236
14	1263	168	1270	1442	1461	16	4	1959	3001	3013	1141	249
15	1252	87	1298	1449	1278	17	0	1963	3047	2999	965	273
16	1278	24	1270	1436	1002	38	441	1907	3064	2954	988	255
17	1077	0	491	2112	1384	1162	929	2043	3005	3047	957	257
18	977	148	312	2099	1458	259	1298	1877	2984	2926	927	272
19	783	1104	627	1724	1531	263	1877	1493	3021	2934	913	269
20	825	1271	685	1775	1202	264	1869	1791	2949	2907	934	267
21	809	257	1386	364	1069	264	1867	1835	2938	2944	989	264
22	724	259	780	2304	1066	265	1302	2045	2915	2949	1009	268
23	722	374	671	1139	1076	263	241	2339	2919	2935	989	143
24	761	265	266	1671	1543	1	258	2097	2921	2959	995	268
25	784	306	567	289	1785	7	704	2149	2890	2978	1061	250
26	394	268	578	1749	1913	6	1305	2285	3000	2862	957	264
27	366	258	573	1690	639	11	1864	2531	2922	2931	971	258
28	429	290	958	2034	1297	17	1883	2666	2957	2972	985	268
29	204	274	2619	2555	---	191	1894	2902	2835	2957	1177	273
30	500	262	3827	2563	---	267	1894	2494	2905	2945	1082	274
31	415	---	3742	2134	---	298	---	2629	---	2936	1005	---
TOTAL	43357	10202	42250	62141	36218	16014	22139	63830	87965	90698	42342	13614
MEAN	1399	340	1363	2005	1294	517	738	2059	2932	2926	1366	454
MAX	2597	1271	3827	3960	2201	1631	1894	2902	3685	3047	2500	1040
MIN	204	0	263	289	260	1	0	1493	2500	2360	913	143
AC-FT	86000	20240	83800	123300	71840	31760	43910	126600	174500	179900	83990	27000
a	298	732	5990	13400	4860	1140	900	732	506	149	93	258

a Discharge, in acre-feet, from Spring Creek Reservoir, provided by U.S. Bureau of Reclamation.

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1644	1275	1130	1358	1568	1604	1345	1543	2026	2416	2310	2241
MAX	3691	3175	4033	4533	4499	4364	4405	4265	3866	3886	3654	3526
(WY)	1989	1967	1974	1974	1974	1983	1983	1983	1969	1968	1977	1988
MIN	265	.87	1.55	2.10	3.36	86.6	5.23	5.45	158	250	467	416
(WY)	1978	1992	1992	1991	1991	1988	1987	1991	1989	1978	1992	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	671098		530770			
ANNUAL MEAN	1834		1454		1704	
HIGHEST ANNUAL MEAN					3390	1974
LOWEST ANNUAL MEAN					748	1992
HIGHEST DAILY MEAN	4018	Mar 4	3960	Jan 4	4800	May 2 1983
LOWEST DAILY MEAN	0	Nov 17	0	Nov 17	0	Mar 30 1974
ANNUAL SEVEN-DAY MINIMUM	148	Nov 12	44	Apr 9	.00	Mar 26 1976
ANNUAL RUNOFF (AC-FT)	1331000		1053000		1235000	
10 PERCENT EXCEEDS	3500		2950		3490	
50 PERCENT EXCEEDS	1640		1270		1570	
90 PERCENT EXCEEDS	273		258		15	

11371700 WHISKEYTOWN LAKE NEAR IGO, CA

LOCATION.--Lat 40°37'03", long 122°31'31", unsurveyed, Shasta County, Hydrologic Unit 18010112, Whiskeytown- Shasta-Trinity National Recreation Area, at outlet works to Spring Creek Powerplant on Clear Creek, 1.8 mi downstream from Whiskey Creek, and 7.8 mi northeast of Igo.

DRAINAGE AREA.--200 mi^2.

PERIOD OF RECORD.--May 1963 to current year. Prior to October 1964 published as Whiskeytown Reservoir near Igo.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Contents based on capacity table dated April 1962 provided by U.S. Bureau of Reclamation.

REMARKS.--Lake is formed by earth and rockfill dam. Storage began in May 1963. Usable capacity, 241,088 acre-ft between elevations 972.0 ft, invert of sluice pipe, and 1,210.00 ft, crest of glory hole spillway. Dead storage 8 acre-ft. Normal operating pool is from elevation 1,197.0 ft, capacity, 201,288 acre-ft, to 1,210.0 ft, capacity, 241,096 acre-ft. Transbasin water enters the reservoir through Judge Francis Carr Powerplant (station 11525430) and is released through Spring Creek Tunnel to Spring Creek Powerplant (station 11371600) and Keswick Reservoir. Figures given represent total contents at 2400 hours. Lake is used for power generation and recreation. See schematic diagrams of upper Sacramento River and Pit and McCloud River basins.

COOPERATION.--Records were provided by U.S. Bureau of Reclamation, not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 258,600 acre-ft, Mar. 2, 1983, elevation, 1,215.34 ft; minimum since first filling, 145,562 acre-ft, Dec. 27, 1992, elevation, 1,176.05 ft.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 252,781 acre-ft, Jan. 1, elevation, 1,213.59 ft; minimum, 194,777 acre-ft, Feb. 25, elevation, 1,194.74 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1962)

1,015	714	1,040	3,055	1,080	15,076	1,140	73,960
1,020	994	1,050	4,898	1,100	27,542	1,180	155,276
1,030	1,797	1,060	7,418	1,120	46,701	1,220	274,389

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239143	217716	205653	252781	204857	196782	205653	238023	238951	237514	236973	237323
2	238471	217200	205240	251727	204769	197443	207155	237609	239496	237196	237577	237959
3	238279	216562	205358	246691	205446	197386	208640	237228	239496	238567	237577	237895
4	238151	215804	205329	242289	205947	197845	210933	237641	237386	238119	237069	237927
5	238439	215110	205770	238631	206065	200766	212939	238823	237768	237450	236910	237768
6	237927	214356	205682	234118	203975	204034	214205	239560	238055	236910	237260	237895
7	238311	213692	206919	229339	201639	206625	214084	240040	238439	237260	237991	237959
8	238983	212910	207868	226566	198710	206389	215261	239688	238791	237514	237800	238119
9	238855	211562	214718	223873	197070	206006	216622	239367	238279	237927	237927	238439
10	237673	209442	217959	223349	197098	205888	217230	239079	238311	238183	237895	238439
11	236242	208996	214748	222639	197931	205770	218446	238855	238119	238567	237895	238279
12	235448	208076	210245	221809	196926	205623	219604	238759	237927	238183	238215	238567
13	234307	207274	207868	220676	196495	205417	219604	238567	237927	237800	238055	237959
14	233266	206772	207601	219573	195489	206625	221105	238439	237800	237450	237863	237545
15	232161	206477	207067	218385	195604	206802	221932	238087	237863	237132	237863	238087
16	231186	206242	206389	217139	196437	207363	222516	237863	237863	236783	237927	238055
17	230435	206507	206684	214507	196294	205505	225354	237641	237800	236528	238087	238023
18	230748	207274	207304	211562	195776	205358	227467	237768	237991	236528	238215	237482
19	231092	207541	207185	209115	195148	205181	229527	238183	238055	236846	237991	237545
20	230717	205829	207067	206978	195319	205004	230873	238407	237514	237132	238247	237545
21	230341	205682	205329	207779	195547	204769	231155	238503	237514	237386	238471	237609
22	228681	205682	204975	204887	195949	204563	232729	237895	237577	237641	238055	237609
23	226939	205122	204474	204034	196323	204327	232477	237418	237577	237577	237927	238087
24	225323	204739	205034	202340	195719	205446	232130	237991	237641	237514	237959	238151
25	223503	204151	205034	204857	194777	205594	233991	238791	237863	237514	238119	238279
26	222608	205240	205387	208907	195233	205711	236370	239175	237800	238247	238439	238343
27	221595	205476	206065	210275	196380	205741	237450	239208	237927	238247	238727	238407
28	220584	205358	207422	210694	196236	205770	237291	239367	238087	237069	238759	238407
29	220370	205417	213783	209412	---	205476	238599	237609	237673	236592	238439	238151
30	219665	205564	220523	207571	---	205004	238407	237641	237641	236465	238151	238279
31	218598	---	240328	206242	---	204445	---	238503	---	236783	237482	---
MAX	239143	217716	240328	252781	206065	207363	238599	240040	239496	238567	238759	238567
MIN	218598	204151	204474	202340	194777	196782	205653	237228	237386	236465	236910	237323
a	1202.81	1198.46	1209.76	1198.69	1195.25	1198.08	1209.16	1209.19	1208.92	1208.65	1208.87	1209.12
b	-20257	-13034	+34764	-34086	-10006	+8209	+33962	+96	-862	-858	+699	+797

CAL YR 1996 b +35500
WTR YR 1997 b -576

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11372000 CLEAR CREEK NEAR IGO, CA

LOCATION.--Lat 40°30'48", long 122°31'23", unsurveyed, Shasta County, Hydrologic Unit 18020112, on left bank at old highway bridge on Redding-Igo Road 1.0 mi northeast of Igo, 7.0 mi downstream from Whiskeytown Dam, 8.3 mi southwest of Redding, and 10.4 mi upstream from mouth.

DRAINAGE AREA.--228 mi^2.

PERIOD OF RECORD.--October 1940 to current year.
CHEMICAL DATA: Water years 1958-79.
WATER TEMPERATURE: Water years 1965-79.

REVISED RECORDS.--WSP 1345: Drainage area. WSP 1395: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 672.99 ft above sea level.

REMARKS.--Records good. Low flow completely regulated by Whiskeytown Lake (station 11371700) since May 1963. Transbasin diversion from Trinity River through Judge Francis Carr Powerplant (station 11525430) to Whiskeytown Lake began in April 1963. Diversions from Whiskeytown Lake to Spring Creek Powerplant (station 11371600) began in December 1963. See schematic diagrams of upper Sacramento River and Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s, Dec. 21, 1955, gage height, 13.75 ft; minimum daily, 9.0 ft^3/s, Sept. 4-7, 1950. Since completion of Whiskeytown Dam in 1963, maximum discharge, 19,200 ft^3/s, Mar. 3, 1983, gage height, 12.73 ft, from rating curve extended above 12,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 30 ft^3/s, Oct. 10, 11, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	157	163	8590	326	186	183	189	62	64	59	59
2	153	156	161	8270	301	223	183	188	63	63	59	59
3	153	156	160	4910	283	195	183	188	91	62	59	59
4	153	157	214	1600	276	190	183	154	121	61	59	59
5	153	156	225	500	262	189	183	122	73	61	59	59
6	153	156	186	368	252	188	181	118	68	60	59	59
7	153	156	546	331	245	187	180	116	66	60	59	59
8	155	155	529	305	237	186	180	116	64	60	58	59
9	155	155	1280	284	232	184	181	115	62	61	59	59
10	155	155	834	270	228	183	180	114	61	62	58	59
11	155	155	412	259	221	169	179	106	62	61	58	60
12	155	155	314	250	217	166	179	107	61	61	58	60
13	154	155	277	240	212	165	179	106	60	60	58	60
14	154	155	242	233	208	165	179	105	63	60	58	64
15	154	155	224	227	205	165	178	105	63	59	58	61
16	153	157	211	223	204	212	179	105	63	59	58	61
17	153	163	202	220	205	207	180	105	63	59	58	61
18	155	353	196	215	202	193	188	103	63	59	58	57
19	155	476	191	211	203	198	201	103	62	59	59	59
20	157	308	191	216	200	195	207	92	63	60	65	58
21	157	201	191	239	198	191	195	87	61	60	63	58
22	157	220	197	304	195	188	216	72	62	61	62	58
23	157	192	190	284	193	185	229	68	62	60	62	58
24	157	179	187	294	191	183	201	65	61	61	62	59
25	157	172	186	636	191	185	198	63	61	60	61	58
26	156	167	214	1510	190	186	195	62	62	60	55	59
27	155	165	234	747	189	185	193	62	61	60	55	59
28	155	163	437	592	188	184	193	63	61	59	55	58
29	168	161	1470	481	---	183	191	62	62	59	59	58
30	161	161	1630	404	---	183	191	62	69	59	59	58
31	158	---	2900	360	---	182	---	62	---	59	59	---
TOTAL	4764	5572	14594	33573	6254	5781	5668	3185	1976	1869	1828	1774
MEAN	154	186	471	1083	223	186	189	103	65.9	60.3	59.0	59.1
MAX	168	476	2900	8590	326	223	229	189	121	64	65	64
MIN	98	155	160	211	188	165	178	62	60	59	55	57
AC-FT	9450	11050	28950	66590	12400	11470	11240	6320	3920	3710	3630	3520

11372000 CLEAR CREEK NEAR IGO, CA—Continued

STATISTICS OF MONTMLY MEAN DATA FOR WATER YEARS 1941 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	76.7	150	597	807	1226	834	676	347	161	63.4	35.1	32.8
MAX	373	427	2336	2513	5753	2595	2431	773	289	126	64.6	89.7
(WY)	1951	1951	1956	1941	1958	1941	1941	1957	1953	1941	1941	1957
MIN	25.8	39.0	47.0	65.5	142	168	172	87.6	66.5	24.3	14.3	13.4
(WY)	1950	1960	1950	1947	1948	1955	1944	1947	1950	1950	1950	1944

SUMMARY STATISTICS	WATER YEARS 1941 - 1962	
ANNUAL MEAN	413	
HIGHEST ANNUAL MEAN	1092	1941
LOWEST ANNUAL MEAN	128	1944
HIGHEST DAILY MEAN	15100	Mar 1 1941
LOWEST DAILY MEAN	9.0	Sep 4 1950
ANNUAL SEVEN-DAY MINIMUM	9.5	Sep 1 1950
INSTANTANEOUS PEAK FLOW	24500	Dec 21 1955
INSTANTANEOUS PEAK STAGE	13.75	Dec 21 1955
ANNUAL RUNOFF (AC-FT)	299000	
10 PERCENT EXCEEDS	929	
50 PERCENT EXCEEDS	133	
90 PERCENT EXCEEDS	27	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	68.3	139	201	300	261	335	153	91.6	66.7	56.7	52.3	52.1
MAX	317	299	625	1358	1509	3437	668	419	249	117	73.3	71.6
(WY)	1993	1974	1965	1970	1983	1983	1974	1982	1993	1982	1995	1995
MIN	38.8	70.7	94.2	54.3	49.8	51.3	50.7	48.6	42.9	39.2	37.9	37.9
(WY)	1978	1969	1977	1977	1977	1977	1977	1966	1966	1966	1966	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	68949		86838			
ANNUAL MEAN	188		238		149	
HIGMEST ANNUAL MEAN					570	1983
LOWEST ANNUAL MEAN					57.9	1977
MIGHEST DAILY MEAN	2900	Dec 31	8590	Jan 1	15000	Mar 3 1983
LOWEST DAILY MEAN	52	Aug 11	55	Aug 26	30	Oct 10 1977
ANNUAL SEVEN-DAY MINIMUM	52	Aug 19	57	Aug 26	31	Oct 5 1977
INSTANTANEOUS PEAK FLOW			15900	Jan 1	19200	Mar 3 1983
INSTANTANEOUS PEAK STAGE			12.11	Jan 1	12.73	Mar 3 1983
ANNUAL RUNOFF (AC-FT)	136800		172200		107900	
10 PERCENT EXCEEDS	343		276		224	
50 PERCENT EXCEEDS	156		156		70	
90 PERCENT EXCEEDS	54		59		49	

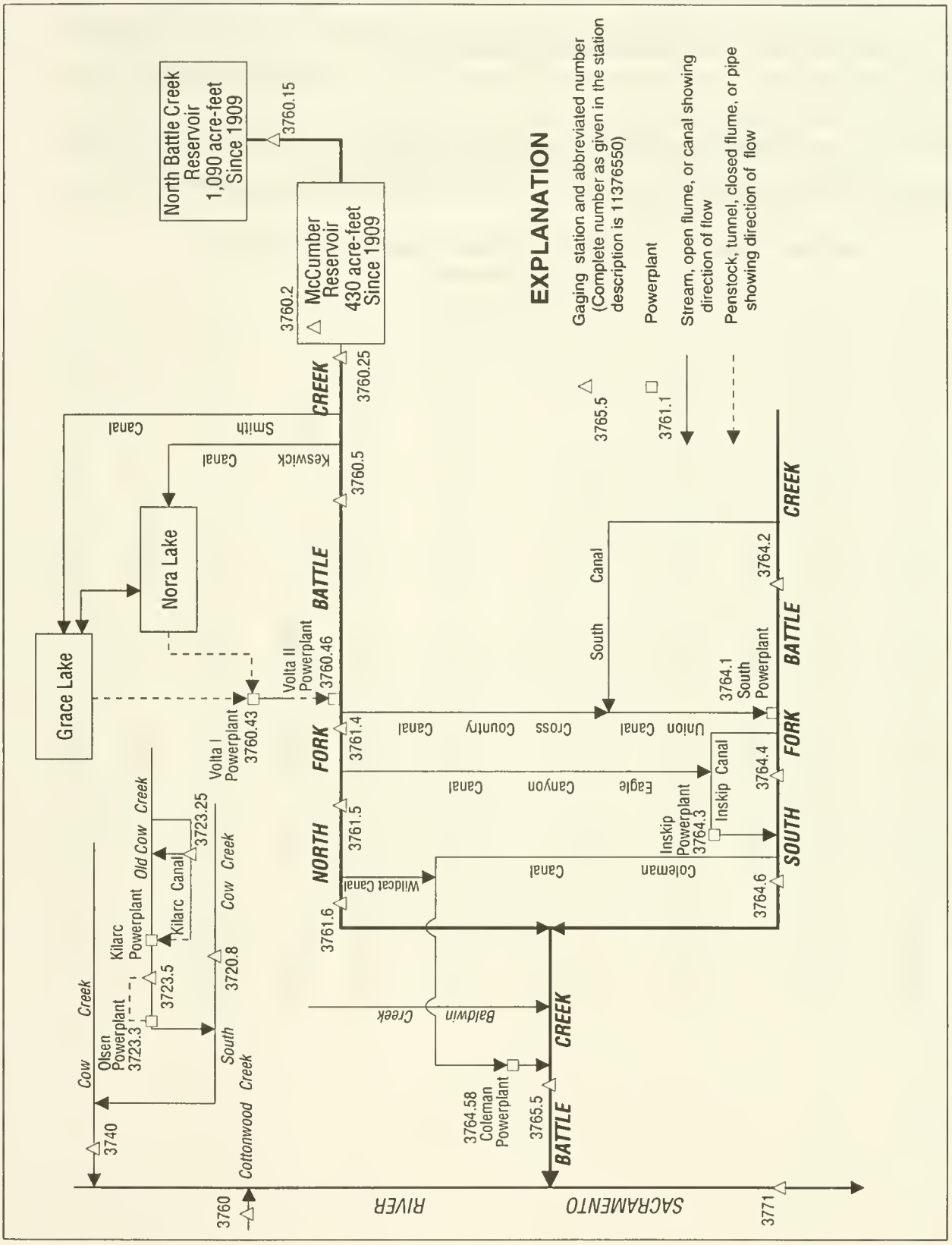

Figure 26. Diversions and storage in Battle Creek basin.

11372080 SOUTH COW CREEK CANAL DIVERSION TO SOUTH COW CREEK NEAR WHITMORE, CA

LOCATION.--Lat 40°35'35", long 121°58'53", in NE 1/4 NW 1/4 sec.33, T.32 N., R.1 W., Shasta County, Hydrologic Unit 18020118, on left bank 2.5 mi northeast of Cow Creek Powerplant and 4.3 mi southwest of Whitmore.

PERIOD OF RECORD.--October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1984-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 1,560 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirements are 2.0 ft^3/s during dry years and 4.0 ft^3/s during normal years. Flow is computed to 7.0 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	5.1	5.1	---	4.3	4.5	4.8	4.7	4.9	4.8	4.8	4.6
2	5.1	5.1	5.1	---	4.3	4.9	4.8	4.6	4.9	4.8	4.8	4.6
3	5.1	5.1	5.1	---	4.3	4.6	4.7	4.7	4.9	4.8	4.8	4.6
4	5.1	5.1	---	4.8	4.3	---	4.7	4.8	5.1	4.8	4.8	4.6
5	5.1	---	---	4.7	4.7	4.4	4.6	4.8	4.9	4.8	4.8	4.6
6	5.1	5.1	5.2	4.4	4.8	4.4	4.6	4.6	4.9	4.8	4.8	4.6
7	5.2	5.1	---	---	4.5	4.4	4.6	4.5	4.9	4.8	4.8	4.6
8	5.2	5.1	---	---	4.5	4.4	4.6	4.5	4.9	4.8	4.8	4.6
9	5.2	5.1	---	4.6	4.5	4.5	4.5	4.5	4.9	4.8	4.8	4.8
10	5.2	5.1	---	4.4	4.4	4.6	---	4.4	4.9	4.8	4.8	4.9
11	5.1	5.1	---	4.3	4.3	4.6	4.6	4.4	4.9	4.8	4.8	4.9
12	5.2	5.1	5.5	4.4	4.3	4.5	4.6	4.3	4.9	4.8	4.8	4.9
13	5.2	5.1	---	4.3	4.3	4.5	4.6	4.3	4.8	4.8	4.7	4.9
14	5.2	5.1	5.3	4.3	4.3	4.6	4.6	4.8	4.8	4.8	4.7	4.9
15	5.1	5.1	5.4	4.3	4.6	4.6	4.6	5.0	4.8	4.8	4.7	4.9
16	5.1	5.1	5.3	4.3	4.8	---	4.6	4.9	4.8	4.8	4.7	4.9
17	5.1	5.1	5.3	4.3	---	---	4.6	4.9	4.8	4.8	4.7	4.9
18	5.1	5.0	5.3	4.3	4.9	5.5	4.8	4.9	4.8	4.8	4.7	4.9
19	5.1	---	5.3	4.3	4.8	5.4	5.7	4.9	4.8	4.8	4.7	4.9
20	5.1	---	5.4	4.4	4.8	5.0	6.0	4.9	4.8	4.8	4.7	4.9
21	5.1	5.1	5.7	4.8	4.7	4.8	5.5	4.9	4.8	4.8	4.7	4.9
22	5.1	---	---	---	4.6	4.8	5.1	4.9	4.8	4.8	4.7	4.9
23	5.1	---	5.6	4.3	4.7	4.7	5.1	5.1	4.8	4.8	4.6	---
24	5.1	5.1	5.3	4.3	4.7	4.7	4.7	4.9	4.8	4.8	4.6	4.8
25	5.1	5.1	5.3	4.4	4.7	4.7	4.7	4.9	4.8	4.8	4.6	4.8
26	5.1	5.1	---	4.4	4.7	4.7	4.5	4.9	4.8	4.8	4.6	4.8
27	5.1	5.1	---	4.3	4.7	4.7	4.5	4.9	4.8	4.8	4.6	4.8
28	5.1	5.1	---	---	4.6	4.6	4.4	4.9	4.8	4.8	4.6	4.8
29	5.2	5.1	---	4.7	---	4.5	4.6	4.9	4.8	4.8	4.6	4.8
30	5.1	5.0	---	4.6	---	4.7	4.7	4.9	4.8	4.8	4.6	4.8
31	5.1	---	---	4.4	---	4.9	---	4.9	---	4.8	4.6	---
TOTAL	158.9	---	---	---	---	---	---	147.5	145.4	148.8	146.0	---
MEAN	5.13	---	---	---	---	---	---	4.76	4.85	4.80	4.71	---
MAX	5.2	---	---	---	---	---	---	5.1	5.1	4.8	4.8	---
MIN	5.1	---	---	---	---	---	---	4.3	4.8	4.8	4.6	---
AC-FT	315	---	---	---	---	---	---	293	288	295	290	---

11372325 KILARC CANAL DIVERSION TO OLD COW CREEK NEAR WHITMORE, CA

LOCATION.--Lat 40°41'13", long 121°48'27", in SW 1/4 NE 1/4 sec.25, T.32 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on right bank of Kilarc Canal 3.6 mi upstream of Kilarc Powerplant and 6.9 mi northeast of Whitmore.

PERIOD OF RECORD.--October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1983-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Cipolletti weir. Elevation of gage is 3,840 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 2.0 ft^3/s during dry or normal years. Flow is computed to 5.0 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.0	3.0	---	2.9	3.4	3.4	3.9	3.0	3.0	3.0	3.0
2	3.0	2.9	3.0	---	2.9	3.5	3.7	3.8	3.0	3.0	3.0	3.0
3	3.0	2.9	2.9	---	2.9	3.3	3.7	3.8	3.1	3.0	3.0	3.0
4	3.0	2.9	3.0	2.4	2.9	3.2	3.7	3.6	3.5	3.0	3.0	3.0
5	3.0	2.9	3.5	3.0	3.2	3.3	3.7	3.6	3.0	3.0	3.0	3.0
6	3.0	2.9	3.0	2.9	3.2	3.4	3.6	3.7	3.0	3.0	3.0	3.0
7	3.0	2.9	3.1	3.2	3.1	3.4	3.6	3.7	3.0	3.0	3.0	3.0
8	3.0	2.9	3.6	3.2	3.1	3.4	3.6	3.7	3.0	3.0	3.0	3.0
9	3.0	2.9	3.3	3.3	3.1	3.3	3.6	3.6	3.0	3.0	3.0	3.0
10	3.0	2.9	3.3	3.1	3.1	3.4	3.5	3.6	3.0	3.0	3.0	3.0
11	3.0	2.9	3.4	3.1	3.1	3.5	3.5	3.6	3.0	3.0	3.0	3.0
12	3.0	2.9	3.5	3.0	3.0	3.4	3.4	3.5	3.0	3.0	3.0	3.0
13	3.0	2.9	3.5	3.0	3.1	3.2	3.4	3.5	3.0	3.0	3.0	3.0
14	---	2.9	3.7	3.0	3.2	3.2	3.4	3.3	3.0	3.0	3.0	3.0
15	---	2.9	3.6	2.1	3.1	3.5	3.4	3.2	3.0	3.0	3.0	3.0
16	---	2.9	3.4	2.4	3.2	4.2	3.5	3.1	3.0	3.0	3.0	2.9
17	---	3.0	3.3	3.1	3.4	4.5	3.5	3.0	2.0	3.0	3.0	2.9
18	3.0	3.1	3.2	3.0	3.1	4.4	3.8	3.0	2.5	3.0	3.0	3.0
19	3.0	3.2	3.1	3.0	3.1	4.4	4.1	3.0	3.0	3.0	3.0	2.9
20	3.0	3.0	3.1	3.0	3.1	4.4	4.2	3.0	3.0	3.0	3.1	2.9
21	2.9	3.0	3.1	2.9	3.1	4.4	4.2	3.0	3.0	3.0	3.0	2.9
22	2.5	3.2	3.0	2.9	3.1	4.4	4.1	3.0	3.0	3.0	3.0	2.9
23	2.8	3.0	3.0	2.9	3.1	4.4	4.2	3.5	3.0	3.0	3.0	2.9
24	3.0	3.0	3.0	3.3	3.0	4.4	4.1	3.1	3.0	3.0	3.0	2.9
25	3.0	3.0	3.0	3.9	3.1	4.4	4.1	3.0	3.0	3.0	3.0	2.9
26	3.0	3.0	3.8	4.0	3.1	4.4	4.0	3.0	3.0	3.0	3.0	2.9
27	3.0	2.9	4.2	3.7	3.3	4.4	4.0	3.0	3.0	3.0	3.0	2.9
28	3.0	3.0	4.4	3.4	3.5	4.3	4.0	3.0	3.0	3.0	3.0	2.9
29	3.0	2.9	4.5	3.1	---	4.3	4.0	3.0	3.0	3.0	3.0	3.0
30	3.0	2.9	4.2	3.0	---	4.0	3.9	3.0	3.0	3.0	3.0	2.9
31	2.9	---	---	2.9	---	3.0	---	3.0	---	3.0	3.0	---
TOTAL	---	86.7	---	---	87.1	118.7	112.9	102.8	89.1	93.0	93.1	88.7
MEAN	---	2.96	---	---	3.11	3.83	3.76	3.32	2.97	3.00	3.00	2.96
MAX	---	3.2	---	---	3.5	4.5	4.2	3.9	3.5	3.0	3.1	3.0
MIN	---	2.9	---	---	2.9	3.0	3.4	3.0	2.0	3.0	3.0	2.9
AC-FT	---	176	---	---	173	235	224	204	177	184	185	176

11372350 OLD COW CREEK BELOW DIVERSION TO OLSEN POWERPLANT, NEAR WHITMORE, CA

LOCATION.--Lat 40°40'10", long 121°53'27", in NW 1/4 SW 1/4 sec.32, T.33 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on right bank 1.2 mi downstream from Kilarc powerhouse, 2.2 mi upstream from Glendenning Creek, and 3.0 mi north of Whitmore.

DRAINAGE AREA.--32.6 mi^2.

PERIOD OF RECORD.--January 1990 to September 1992, (operated as low-flow station only). October 1996 to September 1997.

GAGE.--Water-stage recorder. Elevation of gage is 2,340 ft above sea level, from topographic map.

REMARKS.--This station records regulated bypass flow or natural flow only. During times of powerplant operation the minimum release requirement is 30 ft^3/s. See schematic diagram of upper Sacramento River basin.

COOPERATION.--Records were collected by Synergics Incorporated, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,280 ft^3/s, Jan. 1, 1997, gage-height, 7.29 ft; minimum daily, 6.9 ft^3/s, Aug. 7, 9, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	31	30	e1510	e95	38	25	36	19	17	7.6	27
2	32	31	31	e870	e85	36	24	34	19	16	7.2	27
3	32	31	31	e511	e88	36	24	33	19	15	7.2	27
4	32	31	34	e356	e71	35	27	32	26	14	7.6	27
5	32	34	49	e264	e67	34	28	30	22	14	7.2	27
6	32	32	32	e160	e65	33	29	30	20	13	7.2	27
7	31	31	31	e98	e63	33	30	27	19	12	6.9	27
8	31	31	44	e85	e59	31	30	27	19	10	7.2	27
9	31	31	70	e75	e56	30	30	24	18	10	6.9	27
10	30	31	135	e66	e55	31	30	23	18	11	7.2	27
11	32	30	100	e58	50	29	29	22	17	11	7.2	27
12	33	30	120	e53	49	28	28	20	18	10	17	27
13	29	31	61	46	49	27	28	21	19	10	30	27
14	32	32	31	46	47	27	28	26	17	10	26	27
15	32	33	32	48	47	25	28	26	17	10	27	27
16	33	33	30	48	46	30	26	25	16	10	27	28
17	34	38	30	47	48	44	25	24	15	10	27	28
18	36	49	30	45	46	35	26	23	20	10	27	28
19	34	37	31	43	43	34	31	22	21	9.1	27	27
20	33	39	31	40	39	33	29	21	20	9.1	27	27
21	30	31	31	44	40	31	39	20	19	9.1	27	27
22	34	30	31	e110	40	30	36	20	17	8.3	27	30
23	35	30	31	e74	39	29	e63	24	16	8.7	27	33
24	38	30	31	e53	39	27	42	23	15	8.7	27	33
25	37	30	31	e117	37	25	46	22	16	8.7	27	33
26	32	30	38	e206	36	26	40	22	15	8.3	27	33
27	34	30	34	e152	38	25	40	22	14	8.3	27	35
28	34	30	36	e150	38	24	39	21	14	8.3	27	35
29	38	31	126	e124	---	29	37	20	14	8.0	27	35
30	33	31	356	e107	---	33	37	20	16	8.3	27	35
31	32	---	1296	e102	---	24	---	19	---	8.0	27	---
TOTAL	1020	969	3024	5708	1475	952	974	759	535	323.9	611.4	872
MEAN	32.9	32.3	97.5	184	52.7	30.7	32.5	24.5	17.8	10.4	19.7	29.1
MAX	38	49	1300	1510	95	44	63	36	26	17	30	35
MIN	29	30	30	40	36	24	24	19	14	8.0	6.9	27
AC-FT	2020	1920	6000	11320	2930	1890	1930	1510	1060	642	1210	1730
a	13	276	2830	5360	4340	3140	3340	1430	129	0	0	0

e Estimated.

a Discharge, in acre-feet, for Olsen Powerplant (station 11372330), provided by Synergics Incorporated.

11372350 OLD COW CREEK BELOW DIVERSION TO OLSEN POWERPLANT, NEAR WHITMORE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	32.9	32.3	97.5	184	52.7	30.7	32.5	24.5	17.8	10.4	19.7	29.1
MAX	32.9	32.3	97.5	184	52.7	30.7	32.5	24.5	17.8	10.4	19.7	29.1
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MIN	32.9	32.3	97.5	184	52.7	30.7	32.5	24.5	17.8	10.4	19.7	29.1
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1997 WATER YEAR		
ANNUAL TOTAL	17223.3		
ANNUAL MEAN	47.2		
HIGHEST DAILY MEAN	1510	Jan	1
LOWEST DAILY MEAN	6.9	Aug	7
ANNUAL SEVEN-DAY MINIMUM	7.1	Aug	5
INSTANTANEOUS PEAK FLOW	2280	Jan	1
INSTANEOUS PEAK STAGE	7.29	Jan	1
ANNUAL RUNOFF (AC-FT)	34160		
10 PERCENT EXCEEDS	58		
50 PERCENT EXCEEDS	30		
90 PERCENT EXCEEDS	13		

11374000 COW CREEK NEAR MILLVILLE, CA

LOCATION.--Lat 40°30'19", long 122°13'56", in NE 1/4 NW 1/4 sec.32, T.31 N., R.3 W., Shasta County, Hydrologic Unit 18020101, on right bank 2.9 mi upstream from mouth, 4.2 mi southwest of Millville, and 4.3 mi downstream from Little Cow Creek.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--October 1949 to current year.
CHEMICAL DATA: Water years 1959-66.
WATER TEMPERATURE: Water years 1966-71, 1973-76, 1978-79.
SEDIMENT DATA: Water year 1978.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 385.7 ft above sea level. Prior to June 11, 1987, at datum 3.00 ft higher.

REMARKS.--Records good. Numerous small diversions upstream from station for irrigation. See schematic diagrams of upper Sacramento River and Battle Creek basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,700 ft^3/s, Nov. 16, 1981, gage height, 24.22 ft, present datum; maximum gage height, 24.55 ft, Dec. 27, 1951, present datum; minimum daily, 0.02 ft^3/s, July 29, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1937 or 1940 reached a stage of 26.8 ft from floodmarks, present datum; probable backwater effect from high flows on the Sacramento River.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 13,900 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 2	0245	37,700	21.58	Jan. 26	0230	18,300	15.88
Jan. 22	1100	18,400	15.90				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	122	177	15600	1650	367	373	371	121	97	34	44
2	53	116	185	15900	1390	476	356	327	117	89	29	47
3	59	115	158	7780	1240	410	344	302	130	78	29	47
4	59	114	189	3230	1190	402	328	275	293	72	31	41
5	58	118	2950	2260	1110	398	308	264	219	67	29	42
6	58	116	758	1730	996	385	299	258	165	67	29	42
7	57	111	1130	1440	926	328	321	252	141	66	31	40
8	54	112	2200	1240	871	338	299	236	125	61	28	41
9	53	112	3180	1090	792	325	297	230	130	54	25	43
10	56	112	4120	982	790	316	305	214	133	58	26	42
11	56	113	2830	897	705	320	282	206	122	53	35	47
12	53	114	3170	837	666	333	258	201	121	48	33	45
13	60	115	2990	740	613	325	252	192	123	48	32	43
14	58	114	1230	692	578	327	245	185	113	48	30	62
15	59	112	777	669	555	336	234	176	109	45	29	153
16	62	116	587	644	535	558	215	173	103	46	29	104
17	63	154	469	620	787	2250	213	166	96	45	33	88
18	76	296	386	590	641	969	231	163	89	43	35	98
19	100	263	339	571	570	697	556	158	89	39	33	91
20	95	492	306	605	566	627	568	142	84	40	53	80
21	92	241	367	2800	507	595	752	139	81	43	74	79
22	95	528	1170	12600	480	545	749	138	81	40	63	76
23	98	420	944	3410	443	511	1810	172	76	35	52	68
24	109	244	583	2100	424	470	822	213	72	32	55	62
25	119	202	450	9320	405	454	628	165	71	31	57	60
26	117	175	3670	10600	393	440	560	154	64	33	50	57
27	105	160	3320	4800	388	436	489	152	65	31	48	52
28	104	152	2290	5530	391	416	442	149	69	37	45	50
29	148	147	4020	2920	---	390	419	141	69	39	45	50
30	208	140	6690	2050	---	387	388	131	82	36	43	47
31	136	---	12000	1780	---	409	---	116	---	36	43	---
TOTAL	2572	5446	63635	116027	20602	15540	13343	6161	3353	1557	1208	1841
MEAN	83.0	182	2053	3743	736	501	445	199	112	50.2	39.0	61.4
MAX	208	528	12000	15900	1650	2250	1810	371	293	97	74	153
MIN	52	111	158	571	388	316	213	116	64	31	25	40
AC-FT	5100	10800	126200	230100	40860	30820	26470	12220	6650	3090	2400	3650

11374000 COW CREEK NEAR MILLVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	126	472	1147	1719	1573	1370	849	523	213	59.5	36.1	46.8
MAX	1057	2539	3929	5593	4634	5275	3012	1795	952	218	115	130
(WY)	1963	1982	1984	1970	1986	1983	1963	1967	1993	1983	1983	1983
MIN	19.4	58.3	76.1	80.7	103	118	63.0	54.1	13.5	.63	.74	3.19
(WY)	1992	1992	1991	1991	1977	1977	1977	1992	1992	1977	1977	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1950 - 1997	
ANNUAL TOTAL	312004		251285			
ANNUAL MEAN	852		688		674	
HIGHEST ANNUAL MEAN					1505	1983
LOWEST ANNUAL MEAN					66.8	1977
HIGHEST DAILY MEAN	12000	Dec 31	15900	Jan 2	32500	Dec 27 1951
LOWEST DAILY MEAN	38	Aug 20	25	Aug 9	.02	Jul 29 1977
ANNUAL SEVEN-DAY MINIMUM	40	Aug 11	28	Aug 4	.09	Jul 23 1977
INSTANTANEOUS PEAK FLOW			37700	Jan 2	48700	Nov 16 1981
INSTANTANEOUS PEAK STAGE			21.58	Jan 2	24.55	Dec 27 1951
ANNUAL RUNOFF (AC-FT)	618900		498400		488500	
10 PERCENT EXCEEDS	2280		1240		1580	
50 PERCENT EXCEEDS	308		165		186	
90 PERCENT EXCEEDS	50		42		24	

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'14", long 122°14'15", in NE 1/4 NE 1/4 sec.7, T.29 N., R.3 W., Shasta County, Hydrologic Unit 18020102, on left bank 2.2 mi east of Cottonwood and 2.5 mi upstream from mouth.

DRAINAGE AREA.--927 mi^2.

PERIOD OF RECORD.--October 1940 to current year.
CHEMICAL DATA: Water years 1982-85.
WATER TEMPERATURE: Water years 1963-67, 1977-85.
SEDIMENT DATA: Water years 1957-67, 1977-85.

REVISED RECORDS.--WSP 1345: 1943, 1944(M), 1946-47, 1949(M), 1951-52. WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 363.80 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to July 26, 1963, on right bank at datum 3.59 ft higher. July 26, 1963, to Sept. 13, 1972, at site 250 ft downstream on right bank at present datum. Sept. 21, 1967, to Jan. 14, 1968, supplementary gage at a site 1,450 ft downstream on right bank at datum 2.35 ft higher.

REMARKS.--Records fair. Small diversions for irrigation upstream from station. At times during irrigation season, Cottonwood Creek receives water from the Sacramento River by way of Anderson-Cottonwood Irrigation District Canal. See schematic diagrams of upper Sacramento River and Battle Creek basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,000 ft^3/s, Mar. 1, 1983, gage height, 21.59 ft from rating curve extended above 34,000 ft^3/s on basis of runoff comparisons with upstream stations then in use; minimum, 15 ft^3/s several days during September 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 01	1015	40,600	16.76	Jan. 25	0515	12,500	11.47

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	128	223	32300	3990	701	451	390	250	144	69	73
2	80	119	243	19100	3530	725	436	378	245	129	55	69
3	79	112	251	9310	3080	713	425	367	256	133	55	65
4	74	109	239	6280	2770	652	414	356	427	130	70	65
5	79	104	1320	4840	2390	620	404	348	330	122	60	58
6	65	100	1140	4050	2010	612	392	349	278	117	51	55
7	66	99	767	3570	2000	584	388	347	256	109	51	50
8	70	98	2400	3170	1880	560	380	360	241	104	53	50
9	62	97	2470	2830	1730	546	368	364	241	95	56	53
10	64	95	6160	2560	1660	534	359	356	235	98	61	65
11	88	96	3410	2350	1550	527	350	320	240	85	55	62
12	103	95	2530	2190	1460	514	343	327	235	78	59	64
13	100	95	2050	2020	1360	498	361	315	202	79	60	70
14	87	93	1490	1880	1280	489	346	301	193	83	52	96
15	84	93	1180	1810	1220	479	339	286	188	83	47	116
16	90	96	997	1740	1180	548	332	283	180	78	44	105
17	84	126	873	1680	1180	1100	326	280	182	82	50	108
18	78	188	776	1610	1130	842	332	288	169	80	49	105
19	100	413	702	1570	1060	736	463	270	160	77	46	90
20	103	692	650	1540	1040	694	503	263	146	73	48	86
21	93	454	691	1570	991	685	512	282	136	77	49	80
22	91	402	704	2120	951	647	516	282	134	68	63	68
23	104	461	807	3170	902	621	607	298	134	61	67	71
24	108	371	691	2340	855	591	592	400	125	63	60	75
25	103	320	645	9000	819	571	562	321	114	62	58	76
26	127	286	880	10000	790	549	520	285	105	63	57	71
27	116	260	2370	6580	767	528	494	281	102	61	51	68
28	79	239	2200	6800	737	513	499	290	100	64	52	65
29	98	226	3840	5980	---	501	464	269	100	61	58	64
30	169	221	8210	4630	---	487	415	259	117	65	62	60
31	165	---	17800	4120	---	471	---	241	---	73	68	---
TOTAL	2885	6288	68709	162710	44312	18838	12893	9756	5821	2697	1736	2203
MEAN	93.1	210	2216	5249	1583	608	430	315	194	87.0	56.0	73.4
MAX	169	692	17800	32300	3990	1100	607	400	427	144	70	116
MIN	62	93	223	1540	737	471	326	241	100	61	44	50
AC-FT	5720	12470	136300	322700	87890	37370	25570	19350	11550	5350	3440	4370

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	129	347	1229	2169	2279	1902	1158	619	296	114	69.2	76.8
MAX	805	1829	5428	9193	10810	10770	4270	2447	979	365	169	164
(WY)	1958	1985	1984	1995	1958	1983	1941	1983	1993	1983	1983	1983
MIN	50.6	52.2	49.8	60.3	76.3	146	136	165	74.5	36.8	26.4	30.8
(WY)	1995	1991	1991	1991	1977	1977	1977	1977	1977	1994	1945	1945

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1941 - 1997	
ANNUAL TOTAL	437819		338848			
ANNUAL MEAN	1196		928		859	
HIGHEST ANNUAL MEAN					2714	1983
LOWEST ANNUAL MEAN					94.4	1977
HIGHEST DAILY MEAN	17800	Dec 31	32300	Jan 1	54300	Jan 16 1974
LOWEST DAILY MEAN	44	Sep 3	44	Aug 16	15	Sep 7 1945
ANNUAL SEVEN-DAY MINIMUM	55	Aug 31	48	Aug 15	16	Sep 4 1945
INSTANTANEOUS PEAK FLOW			40600	Jan 1	86000	Mar 1 1983
INSTANTANEOUS PEAK STAGE			16.76	Jan 1	21.59	Mar 1 1983
ANNUAL RUNOFF (AC-FT)	868400		672100		622500	
10 PERCENT EXCEEDS	3650		2150		2020	
50 PERCENT EXCEEDS	445		280		222	
90 PERCENT EXCEEDS	69		62		57	

11376015 NORTH FORK BATTLE CREEK BELOW NORTH BATTLE CREEK DAM, NEAR MANZANITA LAKE, CA

LOCATION.--Lat 40°36'10", long 121°39'17", in SE 1/4 SE 1/4 sec.20, T.32 N., R.3 E., Shasta County, Hydrologic Unit 18020118, Lassen National Forest, on left bank 300 ft downstream from North Battle Creek Dam and 6.7 mi northwest of Manzanita Lake.

DRAINAGE AREA.--6.40 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water years 1920-77 in files of the Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and a compound weir consisting of a 5-ft rectangular and V-notch weir. Elevation of gage is 5,560 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 0.30 ft^3/s Oct. 1-31 and Apr. 1 to Sept. 30. No license requirement Nov. 1 to Mar. 31, records not computed. Each fall, North Battle Creek Reservoir is drafted and flows may exceed the rated limits of the weirs; flow is computed to 50 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	---	---	---	---	---	8.5	14	1.6	1.2	1.2	1.4
2	9.9	---	---	---	---	---	7.5	13	1.4	1.2	1.1	1.4
3	9.8	---	---	---	---	---	5.0	12	1.5	1.7	1.2	1.4
4	9.7	---	---	---	---	---	2.8	11	9.0	1.9	1.1	1.2
5	9.7	---	---	---	---	---	2.8	10	6.7	1.9	1.4	1.2
6	9.7	---	---	---	---	---	2.8	6.1	3.1	1.9	1.9	1.2
7	9.8	---	---	---	---	---	2.8	2.8	3.1	1.9	1.7	1.2
8	10	---	---	---	---	---	2.7	2.8	3.1	1.9	1.7	1.1
9	10	---	---	---	---	---	2.7	2.8	2.2	1.8	1.6	.98
10	9.9	---	---	---	---	---	2.6	2.9	1.4	1.8	1.6	.94
11	9.7	---	---	---	---	---	2.6	2.9	1.4	1.8	1.3	3.4
12	9.7	---	---	---	---	---	2.5	3.0	1.5	1.8	1.1	5.2
13	9.7	---	---	---	---	---	2.5	2.5	1.9	1.7	1.4	5.2
14	9.7	---	---	---	---	---	2.5	2.1	1.4	1.8	1.5	5.0
15	13	---	---	---	---	---	3.0	2.3	1.2	1.7	1.4	5.0
16	15	---	---	---	---	---	3.1	2.6	1.2	1.6	1.3	5.2
17	15	---	---	---	---	---	3.1	2.8	1.1	1.4	1.1	5.0
18	15	---	---	---	---	---	3.2	4.3	1.3	1.4	.98	5.0
19	15	---	---	---	---	---	3.8	4.6	1.4	1.4	.93	4.8
20	14	---	---	---	---	---	23	3.2	1.3	1.5	1.3	5.0
21	14	---	---	---	---	---	17	2.7	1.1	1.5	1.5	5.0
22	14	---	---	---	---	---	12	2.6	1.1	1.5	1.4	5.0
23	14	---	---	---	---	---	35	7.6	1.0	1.4	1.5	5.0
24	14	---	---	---	---	---	27	8.4	1.4	1.4	1.4	5.0
25	14	---	---	---	---	---	22	5.8	1.6	1.1	1.4	5.0
26	14	---	---	---	---	---	20	4.0	1.6	1.1	1.3	4.9
27	13	---	---	---	---	---	19	2.4	1.3	1.0	1.4	4.8
28	13	---	---	---	---	---	19	1.5	1.2	1.1	1.2	4.8
29	9.0	---	---	---	---	---	17	1.4	1.2	1.3	1.2	4.8
30	5.8	---	---	---	---	---	16	1.4	1.1	1.2	1.1	7.8
31	5.8	---	---	---	---	---	---	1.6	---	1.3	1.3	---
TOTAL	352.9	---	---	---	---	---	293.5	147.1	59.4	47.2	41.51	112.92
MEAN	11.4	---	---	---	---	---	9.78	4.75	1.98	1.52	1.34	3.76
MAX	15	---	---	---	---	---	35	14	9.0	1.9	1.9	7.8
MIN	5.8	---	---	---	---	---	2.5	1.4	1.0	1.0	.93	.94
AC-FT	700	---	---	---	---	---	582	292	118	94	82	224

11376025 NORTH FORK BATTLE CREEK BELOW MCCUMBER DAM, NEAR MANZANITA LAKE, CA

LOCATION.--Lat 40°32'15", long 121°43'53", in SW 1/4 SE 1/4 sec.15, T.31 N., R.2 E., Shasta County, Hydrologic Unit 18020118, on right bank 300 ft downstream from McCumber Dam, 3.0 mi northwest of Viola, and 9.0 mi west of Manzanita Lake.

DRAINAGE AREA.--27.6 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch weir. Elevation of gage is 4,080 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. Prior to water year 1995 flow computed to 211 ft^3/s. The minimum release requirement is 0.30 ft^3/s at all times; flow is computed to 800 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	35	29	713	99	51	57	59	34	32	25	21
2	37	35	33	578	97	51	59	56	34	31	25	21
3	41	35	33	382	94	63	47	53	39	30	24	21
4	34	31	26	298	92	71	49	52	52	29	24	20
5	32	27	31	215	91	69	47	50	43	28	24	20
6	33	27	51	159	90	63	46	49	36	29	24	19
7	32	27	58	135	90	55	46	37	34	28	24	19
8	32	25	57	109	89	55	46	38	35	28	25	20
9	32	22	57	101	88	55	46	38	37	29	24	22
10	32	22	63	97	87	55	42	38	35	29	24	21
11	32	22	67	94	86	47	39	38	35	28	25	22
12	32	23	69	96	85	43	38	37	36	28	24	24
13	32	23	69	96	71	44	41	37	34	28	24	24
14	37	23	68	94	63	45	41	36	32	27	23	30
15	40	23	66	93	64	45	41	35	31	27	23	31
16	41	23	57	91	69	45	41	34	28	27	23	27
17	41	23	50	65	73	47	40	34	28	28	21	30
18	41	40	49	58	74	49	47	34	28	27	21	31
19	41	40	38	63	74	64	61	35	26	27	22	27
20	41	40	36	67	73	64	72	35	30	26	29	26
21	41	36	39	70	73	64	93	34	31	26	24	26
22	41	33	40	77	72	64	70	34	31	26	23	26
23	41	35	35	81	72	64	105	56	31	26	23	25
24	41	36	29	79	70	64	85	42	31	26	23	26
25	41	38	30	80	70	59	75	42	31	26	22	26
26	40	38	31	84	69	56	67	40	31	26	21	32
27	41	27	44	87	57	56	65	36	30	25	21	35
28	42	21	81	126	50	57	65	36	30	25	21	35
29	42	21	96	124	---	64	63	36	30	25	20	32
30	39	23	97	110	--	57	61	34	33	25	20	29
31	35	---	572	102	---	51	---	34	---	25	20	---
TOTAL	1161	874	2101	4624	2182	1737	1695	1249	996	847	716	768
MEAN	37.5	29.1	67.8	149	77.9	56.0	56.5	40.3	33.2	27.3	23.1	25.6
MAX	42	40	572	713	99	71	105	59	52	32	29	35
MIN	32	21	26	58	50	43	38	34	26	25	20	19
AC-FT	2300	1730	4170	9170	4330	3450	3360	2480	1980	1680	1420	1520
a	126	114	526	436	166	428	428	436	436	436	436	349

a Contents, in acre-feet, at end of month for McCumber Reservoir (station 11376020), provided by Pacific Gas & Electric.

POWERPLANTS IN BATTLE CREEK BASIN

11376043 VOLTA NO. 1 POWERPLANT NEAR MANTON, CA, in NW 1/4 NE 1/4 sec.16, T.30 N., R.1 E., Shasta County, Hydrologic Unit 18020118, 1.7 mi north of Manton. Powerplant consists of one unit with a total of 8,550 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376046 VOLTA NO. 2 POWERPLANT NEAR MANTON, CA, in NE 1/4 SW 1/4 sec.16, T.30 N., R.1 E., Shasta County, Hydrologic Unit 18020118, 1.2 mi northeast of Manton. Powerplant consists of one unit with a total of 956 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376410 SOUTH POWERPLANT NEAR MANTON, CA, in NE 1/4 SE 1/4 sec.5, T.29 N., R.1 E., Tehama County, Hydrologic Unit 18020118, 2.7 mi south of Manton. Powerplant consists of one unit with a total of 6,750 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376430 INSKIP POWERPLANT NEAR MANTON, CA, in NE 1/4 NW 1/4 sec.3, T.29 N., R.1 W., Tehama County, Hydrologic Unit 18020118, 5.5 mi southwest of Manton. Powerplant consists of one unit with a total of 7,650 KW normal operating capacity. See schematic diagram of Battle Creek basin.

11376458 COLEMAN POWERPLANT NEAR COTTONWOOD, CA, in SW 1/4 SW 1/4 sec.32, T.30 N., R.2 W., Shasta County, Hydrologic Unit 18020006, 8.5 mi east of Cottonwood. Powerplant consists of one unit with a total of 12,150 KW normal operating capacity. See schematic diagram of Battle Creek basin.

MONTLY DISCHARGE, IN ACRE-FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Volta No. 1	Volta No. 2	South	Inskip	Coleman
Oct.	4,980	6,080	11,790	12,990	13,970
Nov	4,520	5,530	12,040	13,460	15,000
Dec.	5,710	6,790	12,620	14,690	18,760
Jan.	6,980	7,270	12,550	250	17,850
Feb.	6,400	6,780	12,060	1,830	17,900
Mar.	7,200	7,500	12,280	17,530	19,940
Apr.	6,630	7,310	12,860	16,790	18,970
May	6,330	7,330	13,380	17,540	19,080
June	5,460	6,580	12,730	16,460	17,160
July	4,470	5,450	11,970	14,040	14,490
Aug.	4,220	5,180	11,040	12,250	9,800
Sept.	4,140	5,030	9,630	11,760	0

Note.--Records were provided by Pacific Gas & Electric Co., in connection with a Federal Energy Regulatory Commission project. Unpublished records for water years 1979-86 available in files of U.S.Geological Survey. Fragmentary records prior to water year 1979 available in files of Pacific Gas & Electric.

11376050 NORTH FORK BATTLE CREEK BELOW DIVERSION TO KESWICK DITCH, NEAR MANTON, CA

LOCATION.--Lat 40°30'00", long 121°48'29", in NW 1/4 NE 1/4 sec.36, T.31 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on right bank 4.2 mi east of Shingletown and 5.5 mi northeast of Manton.

PERIOD OF RECORD.--October 1986 to current year (operated as a low-flow station only). Unpublished records for water years 1978-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 3,600 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 5.6 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.5	3.8	---	4.3	4.8	4.9	4.3	3.5	3.6	3.5	3.4
2	3.5	3.5	3.8	---	4.3	4.8	4.9	4.3	3.5	3.6	3.5	3.4
3	3.7	3.5	3.8	---	4.4	4.8	4.8	4.3	3.5	3.6	3.5	3.4
4	3.6	3.5	3.8	---	4.4	4.8	4.9	4.3	3.6	3.5	3.5	3.5
5	3.5	3.4	4.0	---	4.6	4.8	4.8	4.3	3.5	3.5	3.5	3.5
6	3.5	3.5	4.1	---	4.6	4.8	4.8	4.3	3.5	3.5	3.5	3.5
7	3.5	3.6	4.1	---	4.6	4.8	4.8	4.0	3.5	3.5	3.5	3.5
8	3.6	3.5	4.1	---	4.6	4.8	4.2	3.6	3.5	3.5	3.5	3.5
9	3.6	3.4	4.1	4.1	4.6	4.8	3.6	3.6	3.5	3.6	3.5	3.5
10	3.6	3.5	4.0	4.9	4.7	4.8	3.6	3.6	3.5	3.6	3.5	3.5
11	3.6	3.5	3.9	4.9	4.7	4.8	3.6	3.6	3.5	3.6	3.5	3.5
12	3.6	3.5	4.0	4.9	4.7	4.8	3.6	3.5	3.5	3.5	3.5	3.6
13	3.6	3.5	4.0	4.9	4.7	4.9	3.6	3.5	3.5	3.5	3.5	3.6
14	3.6	3.5	4.0	4.8	4.8	4.9	3.6	3.6	3.5	3.5	3.5	3.7
15	3.6	3.5	4.0	4.8	4.8	5.0	3.6	3.6	3.5	3.5	3.5	3.7
16	3.6	3.5	4.0	4.8	4.8	5.0	3.6	3.6	3.5	3.4	3.5	3.6
17	3.6	3.6	3.7	4.7	4.8	5.0	3.6	3.6	3.5	3.4	3.5	3.6
18	3.6	3.8	3.6	4.7	4.7	4.9	3.6	3.6	3.5	3.4	3.5	3.7
19	3.6	3.9	3.4	4.8	4.7	5.0	3.6	3.6	3.4	3.4	3.5	3.6
20	3.6	3.9	3.4	4.8	4.7	5.0	3.6	3.6	3.5	3.4	3.6	3.6
21	3.6	3.9	3.5	4.8	4.7	4.9	3.5	3.6	3.5	---	3.5	3.6
22	3.6	3.9	3.5	4.5	4.7	4.9	3.5	3.6	3.5	---	3.5	3.6
23	3.6	3.9	3.4	4.4	4.7	4.9	3.4	3.6	3.5	---	3.5	3.6
24	3.6	3.9	3.4	4.1	4.7	4.9	3.9	3.5	3.5	3.5	3.5	3.6
25	3.6	3.9	3.5	3.9	4.7	4.9	4.3	3.5	3.5	3.6	3.4	3.6
26	3.6	3.9	3.6	3.9	4.8	4.8	4.3	3.5	3.5	3.6	3.4	3.6
27	3.5	3.7	3.7	3.9	4.8	4.8	4.3	3.4	3.5	3.6	3.4	3.6
28	3.6	3.6	3.3	4.1	4.8	4.9	4.3	3.5	3.5	3.6	3.4	3.5
29	3.6	3.6	3.1	4.2	---	4.9	4.3	3.5	3.5	3.5	3.4	3.5
30	3.5	3.6	3.2	4.2	---	4.9	4.3	3.5	3.6	3.5	3.4	3.5
31	3.5	---	3.9	4.2	---	4.9	---	3.5	---	3.5	3.4	---
TOTAL	110.9	109.0	115.7	---	130.4	151.0	121.4	115.1	105.1	---	107.9	106.6
MEAN	3.58	3.63	3.73	---	4.66	4.87	4.05	3.71	3.50	---	3.48	3.55
MAX	3.7	3.9	4.1	---	4.8	5.0	4.9	4.3	3.6	---	3.6	3.7
MIN	3.5	3.4	3.1	---	4.3	4.8	3.4	3.4	3.4	---	3.4	3.4
AC-FT	220	216	229	---	259	300	241	228	208	---	214	211

NOTE: Canal was out of service Jan. 1-8 and July 21-23 and all flow remained in the natural channel.

11376140 NORTH FORK BATTLE CREEK BELOW DIVERSION TO CROSS COUNTRY CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°27'16", long 121°51'35", in SW 1/4 NW 1/4 sec.15, T.30 N., R.1 E., Shasta County, Hydrologic Unit 18020118, on left bank at diversion dam 800 ft downstream (revised) from Volta No. 2 Powerplant and 1.4 mi northeast of Manton.

DRAINAGE AREA.--133 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 2,240 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 6.8 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	---	---	---	---	---	---	---	---	---	4.7	4.7
2	5.3	---	---	---	---	---	---	---	---	6.2	4.7	4.7
3	5.3	6.8	---	---	---	---	---	---	---	5.7	4.7	4.6
4	5.3	---	---	---	---	---	---	---	---	5.5	---	4.6
5	5.4	---	---	---	---	---	---	---	5.1	5.7	4.7	4.7
6	5.3	6.7	---	---	6.1	---	---	---	4.8	5.8	4.7	4.7
7	5.3	---	---	---	5.8	---	---	---	4.7	5.8	4.6	4.7
8	5.4	6.3	---	---	5.4	---	---	---	5.6	5.8	4.7	---
9	5.4	6.8	---	---	4.9	---	---	---	---	5.0	4.6	4.7
10	5.5	---	---	---	4.7	---	---	---	---	4.9	4.7	4.7
11	5.6	---	---	---	4.9	---	---	---	---	4.9	4.7	4.7
12	5.7	6.6	6.6	5.6	4.5	---	---	---	---	4.8	4.7	4.7
13	5.9	---	6.0	1.7	---	---	---	---	---	4.9	4.7	4.7
14	5.9	---	5.5	1.1	5.6	---	---	---	---	4.9	4.7	---
15	5.9	6.1	5.0	1.2	5.2	---	---	---	---	4.9	4.6	---
16	---	6.2	5.3	4.0	5.2	---	---	---	---	4.9	4.7	4.6
17	6.4	---	6.1	---	---	---	---	---	---	4.9	4.7	4.9
18	6.1	---	6.7	5.6	6.0	---	---	---	---	4.9	4.7	4.8
19	6.0	---	---	5.7	5.9	---	---	---	---	4.9	---	4.6
20	5.3	---	---	5.8	5.6	---	---	---	---	4.9	5.3	4.6
21	5.0	---	---	---	5.4	---	---	---	---	---	4.6	4.7
22	5.3	---	---	---	5.2	---	---	---	---	---	4.6	4.7
23	5.6	---	---	---	4.8	---	---	---	---	---	4.7	4.7
24	6.2	---	---	---	4.3	---	---	---	---	4.9	4.7	4.6
25	6.4	---	---	---	3.9	---	---	---	---	4.9	4.7	4.7
26	---	---	---	---	4.3	---	---	---	---	4.9	---	4.7
27	---	---	---	---	5.6	---	---	---	---	4.9	4.7	4.6
28	6.2	---	---	---	---	---	---	---	---	4.7	4.7	4.6
29	---	6.8	---	4.6	---	---	---	---	---	4.7	4.7	4.9
30	---	---	---	4.2	---	---	---	---	---	4.7	4.7	4.5
31	---	---	---	2.6	---	---	---	---	---	4.7	4.6	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

11376150 NORTH FORK BATTLE CREEK BELOW DIVERSION TO EAGLE CANYON CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°25'26", long 121°55'09", in NW 1/4 SE 1/4 sec.25, T.30 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on left bank at diversion dam to Eagle Canyon Canal and 2.8 mi southwest of Manton.

DRAINAGE AREA.--186 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,400 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. Prior to water year 1996 flow computed to 7.2 ft^3/s. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 50 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e33	e27	e35	---	---	---	---	---	---	e31	e32	e35
2	e34	e27	e32	---	---	---	---	---	---	e31	e32	e34
3	e35	e27	e31	---	---	---	---	---	---	e30	e32	e34
4	e35	e27	---	---	---	---	---	---	---	e31	e32	e34
5	e34	e27	---	---	---	---	---	---	---	e31	e32	e34
6	e33	e27	---	---	---	---	---	---	---	e30	e32	e34
7	e32	e28	---	---	---	---	---	---	---	e30	e32	e34
8	e32	e29	---	---	---	---	---	---	---	e31	e31	e34
9	e32	e29	---	---	---	---	---	---	---	e30	e31	e34
10	e33	e29	---	---	---	---	---	---	---	e29	e30	e33
11	e33	e29	---	---	---	---	---	---	---	e29	e30	e32
12	e32	e29	---	---	---	---	e49	---	---	e29	e32	e33
13	e33	e30	---	---	---	---	e50	---	---	e29	e31	e33
14	e33	e30	---	---	---	---	---	---	---	e29	e31	e35
15	e34	e30	---	---	---	---	e48	---	e50	e29	e31	e36
16	e34	e30	---	---	---	---	e46	---	e50	e28	e31	e33
17	e34	e33	---	---	---	---	e45	---	e48	e29	e31	e32
18	e36	---	e46	---	---	---	---	---	e49	e28	e31	e34
19	e36	e45	e43	---	---	---	---	---	e45	e28	e32	e33
20	e35	e48	e30	---	---	---	---	---	e39	e28	e35	e32
21	e35	e27	e44	---	---	---	---	---	e33	e35	e33	e32
22	e35	---	---	---	---	---	---	---	e30	e39	e32	e32
23	e35	e41	e42	---	---	---	---	---	e31	e29	e31	e32
24	e35	e27	e35	---	---	---	---	---	e30	e31	e31	e32
25	e35	e30	e30	---	---	---	---	---	e28	e33	e31	e32
26	e34	e31	e41	---	---	---	---	---	e29	e33	e31	e32
27	e34	e31	---	---	---	---	---	e49	e28	e33	e31	e33
28	e34	e30	---	---	---	---	---	e45	e28	e34	e33	e32
29	e34	e30	---	---	---	---	---	e50	e28	e33	e35	e33
30	e29	e30	---	---	---	---	---	---	e36	e33	e35	e32
31	e27	---	---	---	---	---	---	---	---	e33	e35	---
TOTAL	1040	---	---	---	---	---	---	---	---	956	989	995
MEAN	33.5	---	---	---	---	---	---	---	---	30.8	31.9	33.2
MAX	36	---	---	---	---	---	---	---	---	39	35	36
MIN	27	---	---	---	---	---	---	---	---	28	30	32
AC-FT	2060	---	---	---	---	---	---	---	---	1900	1960	1970

e Estimated.

11376160 NORTH FORK BATTLE CREEK BELOW DIVERSION TO WILDCAT CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°25'14", long 121°57'36", in SE 1/4 SW 1/4 sec.27, T.30 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on left bank at diversion dam to Wildcat Canal and 4.9 mi west of Manton.

DRAINAGE AREA.--189 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,080 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 3.0 ft^3/s at all times; flow is computed to 60 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	30	38	---	---	---	---	---	---	34	35	38
2	37	30	35	---	---	---	---	---	---	34	35	37
3	38	30	34	---	---	---	---	---	---	33	35	37
4	38	30	---	---	---	---	---	---	---	34	35	37
5	37	30	---	---	---	---	---	---	---	34	35	37
6	36	30	---	---	---	---	---	---	---	33	35	37
7	35	31	---	---	---	---	---	---	---	33	35	37
8	35	32	---	---	---	---	---	---	---	34	34	37
9	35	32	---	---	---	---	---	---	---	33	34	37
10	36	32	---	---	---	---	---	---	---	32	33	36
11	36	32	---	---	---	---	56	---	---	32	33	35
12	35	32	---	---	---	---	52	---	---	32	35	36
13	36	33	---	---	---	---	53	---	60	32	34	36
14	36	33	---	---	---	---	54	---	54	32	34	38
15	37	33	---	---	---	---	51	---	53	32	34	39
16	37	33	---	---	---	---	49	---	53	31	34	36
17	37	36	56	---	---	---	48	---	51	32	34	35
18	39	54	49	---	---	---	---	---	52	31	34	37
19	39	48	46	---	---	---	---	---	48	31	35	36
20	38	50	33	---	---	---	---	---	42	31	38	35
21	38	30	47	---	---	---	---	---	36	38	36	35
22	38	---	57	---	---	---	---	---	33	42	35	35
23	38	44	45	---	---	---	---	---	34	32	34	35
24	38	30	38	---	---	---	---	---	33	34	34	35
25	38	33	33	---	---	---	---	---	31	36	34	35
26	37	34	44	---	---	---	---	---	32	36	34	35
27	37	34	---	---	---	---	---	52	31	36	34	36
28	37	33	---	---	---	---	---	48	31	37	36	35
29	37	33	---	---	---	---	---	53	31	36	38	36
30	32	33	---	---	---	---	---	55	39	36	38	35
31	30	---	---	---	---	---	---	---	---	36	38	---
TOTAL	1133	---	---	---	---	---	---	---	---	1049	1082	1085
MEAN	36.5	---	---	---	---	---	---	---	---	33.8	34.9	36.2
MAX	39	---	---	---	---	---	---	---	---	42	38	39
MIN	30	---	---	---	---	---	---	---	---	31	33	35
AC-FT	2250	---	---	---	---	---	---	---	---	2080	2150	2150

11376420 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO SOUTH BATTLE CREEK CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°22'08", long 121°47'48", in SW 1/4 NW 1/4 sec.18, T.29 N., R.2 E., Tehama County, Hydrologic Unit 18020118, on right bank at diversion dam to South Battle Creek Canal and 5.9 mi southeast of Manton.

DRAINAGE AREA.--66.7 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water years 1976-77 in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 2,040 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 5.0 ft^3/s at all times; flow is computed to 8.9 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	6.9	---	---	---	6.7	---	---	6.7	6.7	6.5	6.5
2	6.9	7.0	6.6	---	---	6.7	---	---	6.7	6.7	6.6	6.5
3	7.0	6.9	6.6	---	---	6.7	---	---	7.8	6.3	6.6	6.5
4	6.9	6.9	---	---	---	6.7	---	---	---	6.5	6.5	6.5
5	6.9	6.7	---	---	---	6.7	8.3	---	---	6.5	6.6	6.6
6	6.9	6.5	---	---	8.1	6.7	6.8	---	8.7	6.6	6.6	6.5
7	7.0	6.6	---	---	7.7	6.7	6.4	---	6.6	6.5	6.6	6.5
8	7.1	6.6	---	---	7.0	6.8	6.5	---	6.8	---	6.8	6.5
9	7.0	6.6	---	---	7.3	6.7	---	---	7.3	6.5	6.7	6.5
10	7.0	6.6	---	---	7.4	6.7	---	---	7.4	6.6	6.9	6.5
11	7.0	6.5	---	---	7.4	5.8	---	---	6.6	6.5	6.9	6.5
12	7.0	6.6	---	---	7.4	6.8	---	---	---	6.6	6.9	6.5
13	7.0	6.6	---	---	7.4	5.9	---	---	6.3	6.5	6.5	6.5
14	7.0	6.5	---	---	7.4	8.6	---	---	6.8	6.5	6.6	6.5
15	6.9	6.5	---	6.8	7.4	---	---	---	7.0	6.6	6.6	6.5
16	6.9	6.5	---	6.9	7.5	---	---	---	7.1	6.6	6.5	6.5
17	7.0	6.6	---	7.0	7.4	---	---	---	7.0	6.5	6.5	6.5
18	7.0	---	---	6.9	7.4	---	---	---	6.8	6.6	6.5	---
19	6.9	---	---	6.9	7.1	---	---	7.3	6.7	6.6	6.5	6.5
20	6.9	---	---	6.9	6.9	---	---	6.6	6.8	6.6	6.5	6.5
21	7.0	---	---	6.9	6.9	---	---	6.6	6.7	6.6	6.5	6.5
22	7.0	---	---	---	6.9	---	---	6.6	6.7	6.5	6.5	6.6
23	7.0	---	---	---	6.9	---	---	---	6.7	6.5	6.5	6.5
24	7.0	6.6	---	---	6.9	---	---	---	6.8	6.5	6.5	6.5
25	6.9	6.6	---	---	6.9	---	---	---	6.8	6.6	6.5	6.5
26	6.9	6.6	---	---	6.9	---	---	6.6	6.7	6.6	6.5	6.5
27	6.9	6.7	---	---	6.9	---	---	6.5	6.7	6.5	6.5	6.5
28	7.0	6.7	---	---	6.9	---	---	6.6	6.7	6.5	6.5	6.5
29	7.0	6.6	---	---	---	---	---	6.7	6.7	6.5	6.5	6.5
30	6.9	6.7	---	---	---	---	---	6.7	6.7	6.5	6.5	6.5
31	6.9	---	---	---	---	---	---	6.6	---	6.6	6.5	---
TOTAL	215.7	---	---	---	---	---	---	---	---	---	203.9	---
MEAN	6.96	---	---	---	---	---	---	---	---	---	6.58	---
MAX	7.1	---	---	---	---	---	---	---	---	---	6.9	---
MIN	6.9	---	---	---	---	---	---	---	---	---	6.5	---
AC-FT	428	---	---	---	---	---	---	---	---	---	404	---

11376440 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO INSKIP CANAL, NEAR MANTON, CA

LOCATION.--Lat 40°23'43", long 121°52'57", in NW 1/4 SE 1/4 sec.5, T.29 N., R.1 E., Tehama County, Hydrologic Unit 18020118, on left bank at diversion dam to Inskip Canal and 2.8 mi south of Manton.

DRAINAGE AREA.--88.3 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-87 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 1,440 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. The minimum release requirement is 5.0 ft^3/s at all times; flow is computed to 12 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	---	---	---	---	---	---	---	---	---	8.3	9.4
2	11	11	---	---	---	---	---	---	---	12	8.4	9.5
3	11	11	---	---	---	---	---	---	---	11	8.3	9.5
4	---	11	---	---	---	---	---	---	---	11	8.4	9.5
5	---	10	---	---	---	---	---	---	---	11	8.6	9.5
6	---	10	---	---	---	---	---	---	---	10	8.8	9.5
7	11	10	---	---	---	---	---	---	---	10	8.7	9.5
8	11	10	---	---	---	---	---	---	---	10	8.8	9.5
9	11	10	---	---	---	---	---	---	---	10	8.7	9.5
10	11	9.8	---	---	---	---	---	---	---	10	8.7	9.6
11	11	9.7	---	---	---	---	---	---	---	9.7	8.7	9.6
12	11	10	---	---	---	---	---	---	---	9.8	8.1	9.6
13	11	10	---	---	---	---	---	---	---	9.4	8.9	9.6
14	11	10	---	---	---	---	---	---	---	9.3	8.8	12
15	11	10	---	---	---	---	---	---	---	9.1	8.8	11
16	9.5	10	---	---	---	---	---	---	---	9.3	8.8	9.6
17	9.2	---	---	---	---	---	---	---	---	8.5	8.9	9.9
18	---	---	---	---	---	---	---	---	---	8.7	9.2	---
19	10	---	---	---	---	---	---	---	---	8.7	9.4	11
20	9.4	---	---	---	---	---	---	---	---	8.5	12	9.9
21	9.4	---	---	---	---	---	---	---	---	6.9	11	10
22	9.5	---	---	---	---	---	---	---	---	6.2	9.1	10
23	10	---	---	---	---	---	---	---	---	6.8	9.2	10
24	---	---	---	---	---	---	---	---	---	8.4	9.4	10
25	---	---	---	---	7.9	---	---	---	---	8.4	9.3	10
26	---	---	---	---	8.6	---	---	---	---	8.0	9.4	10
27	---	---	---	---	---	---	---	---	10	8.3	9.3	10
28	11	---	---	---	---	---	---	---	10	8.5	9.2	10
29	---	---	---	---	---	---	---	---	9.8	8.3	9.3	10
30	---	---	---	---	---	---	---	---	---	8.2	9.2	11
31	---	---	---	---	---	---	---	---	---	8.1	9.3	---
TOTAL	---	---	---	---	---	---	---	---	---	---	281.0	---
MEAN	---	---	---	---	---	---	---	---	---	---	9.06	---
MAX	---	---	---	---	---	---	---	---	---	---	12	---
MIN	---	---	---	---	---	---	---	---	---	---	8.1	---
AC-FT	---	---	---	---	---	---	---	---	---	---	557	---

11376460 SOUTH FORK BATTLE CREEK BELOW DIVERSION TO COLEMAN DITCH, NEAR MANTON, CA

LOCATION.--Lat 40°24'10", long 121°58'02", in NW 1/4 NW 1/4 sec.3, T.29 N., R.1 W., Tehama County, Hydrologic Unit 18020118, on right bank 7.5 mi southwest of Shingletown and 5.7 mi southwest of Manton.

DRAINAGE AREA.--102 mi^2.

PERIOD OF RECORD.--October 1987 to current year (operated as a low-flow station only). Unpublished records for water years 1978-86 available in files of the U.S. Geological Survey. Fragmentary records for water year 1977 available in files of Pacific Gas & Electric Co.

GAGE.--Water-stage recorder and metal Alaskan fishladder. Elevation of gage is 980 ft above sea level, from topographic map.

REMARKS.--This station records fishwater release only. Prior to water year 1996 flow computed to 10 ft^3/s. The minimum release requirement is 5.0 ft^3/s at all times; flow is computed to 45 ft^3/s. See schematic diagram of Battle Creek basin.

COOPERATION.--Records were collected by the Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e32	e30	---	---	---	e43	---	---	e30	e30	e30	---
2	e32	e30	e33	---	---	---	---	---	e30	e30	e30	---
3	e32	e30	e34	---	---	---	---	---	e31	e28	e31	---
4	e32	e30	e33	---	---	e37	e44	---	e42	e30	e30	---
5	e32	e30	---	---	---	e41	e40	---	e43	e30	e30	---
6	e32	e29	---	---	---	e43	e37	---	e31	e30	e31	---
7	e33	e30	---	---	---	e42	e33	---	e31	e30	e30	---
8	e33	e29	---	---	---	---	e31	---	e31	e29	e30	---
9	e33	e30	---	---	---	---	e30	---	e31	e29	e30	---
10	e33	e35	---	---	---	e45	e28	---	e31	e28	e30	---
11	e32	e29	---	---	---	---	e29	---	e31	e29	e30	---
12	e32	e29	---	---	---	e31	e30	e42	e31	e28	e30	---
13	e32	e30	---	---	---	e31	e33	e38	e32	e29	e32	---
14	e32	e30	---	---	---	e31	e32	e24	e31	e29	e33	---
15	e32	e30	---	---	---	e30	e32	e33	e31	e28	e33	---
16	e32	e30	---	---	---	---	e32	e33	e31	e28	e34	---
17	e33	e30	---	---	---	---	e32	e33	e31	e28	e34	---
18	e33	e35	e37	---	---	---	e33	e36	e31	e28	e35	---
19	e33	e31	e37	---	---	---	---	e36	e31	e29	e35	---
20	e31	e37	e37	---	---	---	---	e36	e31	e29	e35	---
21	e31	e22	e37	---	---	---	---	e37	e31	e28	e34	---
22	e32	e33	e32	---	---	---	---	e31	e30	e28	e35	---
23	e31	---	e37	---	---	---	---	e30	e30	e28	e34	---
24	e31	e33	e34	---	---	---	---	e41	e30	e29	e33	---
25	e31	e33	e34	---	---	---	---	e30	e31	e28	e34	---
26	e30	e33	---	---	---	---	---	e30	e33	e29	e33	---
27	e30	e33	---	---	---	---	---	e30	e31	e30	e35	e34
28	e30	e34	---	---	---	---	---	e30	e30	e30	---	e35
29	e30	e34	---	---	---	---	---	e30	e33	e30	---	e45
30	e30	e33	---	---	---	---	---	e30	e29	e30	---	e38
31	e30	---	---	---	---	---	---	e30	---	e30	---	---
TOTAL	982	---	---	---	---	---	---	---	950	899	---	---
MEAN	31.7	---	---	---	---	---	---	---	31.7	29.0	---	---
MAX	33	---	---	---	---	---	---	---	43	30	---	---
MIN	30	---	---	---	---	---	---	---	29	28	---	---
AC-FT	1950	---	---	---	---	---	---	---	1880	1780	---	---

e Estimated.

11376550 BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'54", long 122°08'43", in SW 1/4 NE 1/4 sec.1, T.29 N., R.3 W., Shasta County, Hydrologic Unit 18020101, U.S. Fish and Wildlife Service land, on right bank 3.7 mi downstream from Spring Branch, 5.7 mi upstream from mouth, and 7.0 mi east of Cottonwood.

DRAINAGE AREA.--357 mi^2.

PERIOD OF RECORD.--October 1961 to September 1996. October 1996 to September 1997 (operated as a low flow station only). October 1940 to September 1961 at site 0.6 mi upstream published as "near Cottonwood"; low-flow records not equivalent owing to Coleman Fish Hatchery diversion, maximum flows considered equivalent.
CHEMICAL DATA: Water years 1962-66.
WATER TEMPERATURE: Water years 1966-79.
SEDIMENT DATA: Water years 1962-70.

GAGE.--Water-stage recorder. Elevation of gage is 415 ft above sea level, from topographic map.

REMARKS.--Records good. Some regulation at low flows by five small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts from 50 to 90 ft^3/s and pumps ground water for temperature control, which is returned above the station. At times, 10 ft^3/s diverted upstream from station for irrigation. Flow is computed to 540 ft^3/s. See schematic diagrams of Battle Creek and upper Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft^3/s, Jan. 24, 1970, gage height, 14.75 ft, from rating curve extended above 4,200 ft^3/s on basis of slope-area measurement of peak flow; minimum, 52 ft^3/s, Aug. 8, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 15.8 ft, Dec. 11, 1937, from floodmarks, site and datum then in use, discharge, 35,000 ft^3/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum stage, 12.74 ft., Jan. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	322	438	---	---	515	501	526	415	355	251	241
2	283	317	398	---	---	---	482	504	409	334	251	240
3	284	313	353	---	---	540	474	490	410	327	253	243
4	296	320	356	---	---	540	471	487	---	320	253	241
5	298	327	---	---	---	---	462	479	519	316	250	235
6	286	323	---	---	---	---	452	462	467	313	251	235
7	283	317	---	---	---	528	458	461	439	311	248	235
8	290	317	---	---	---	528	453	452	435	295	242	238
9	276	305	---	---	---	520	450	459	444	290	246	243
10	277	305	---	---	---	519	447	461	424	288	246	243
11	284	301	---	---	---	523	438	463	409	287	250	247
12	266	301	---	---	---	509	433	467	426	282	244	248
13	261	299	---	---	---	495	432	462	422	279	243	248
14	265	305	---	---	---	494	438	451	405	275	243	269
15	265	305	---	---	---	496	434	441	397	273	243	298
16	274	299	---	---	---	---	435	441	400	269	241	263
17	283	347	510	---	---	---	437	429	392	268	240	255
18	287	447	478	---	---	---	452	427	387	269	240	283
19	301	503	465	---	---	---	---	427	385	267	238	277
20	293	---	441	---	---	---	---	429	373	269	282	262
21	295	426	511	---	---	---	---	424	370	262	270	260
22	297	---	---	---	---	---	---	419	365	273	255	259
23	310	---	---	---	---	---	---	447	359	264	249	256
24	306	425	478	---	---	---	---	498	353	264	250	253
25	317	390	454	---	---	---	---	433	344	260	235	248
26	315	365	---	---	---	---	---	415	340	258	245	250
27	310	350	---	---	---	---	---	407	336	255	248	258
28	312	328	---	---	---	---	---	399	329	258	249	256
29	350	323	---	---	---	536	---	404	328	255	239	261
30	363	316	---	---	---	540	520	400	349	257	241	261
31	336	---	---	---	---	536	---	406	---	255	243	---
TOTAL	9134	---	---	---	---	---	---	13870	---	8748	7679	7606
MEAN	295	---	---	---	---	---	---	447	---	282	248	254
MAX	363	---	---	---	---	---	---	526	---	355	282	298
MIN	261	---	---	---	---	---	---	399	---	255	235	235
AC-FT	18120	---	---	---	---	---	---	27510	---	17350	15230	15090

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA

LOCATION.--Lat 40°17'19", long 122°11'08", in NW 1/4 NE 1/4 sec.15, T.28 N., R.3 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.7 mi upstream from Bend Bridge, and 8.1 mi northeast of Red Bluff.

DRAINAGE AREA.--8,900 mi^2, excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1879-88 annual observed maximums only, published in WSP 1315-A. January 1892 to current year. Monthly discharges only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Published as "at Red Bluff" 1894-96, as "at Jellys Ferry" 1895-1902, and as "near Red Bluff" 1903-68 (station 11378000).

REVISED RECORDS.--WSP 861: 1904, 1907, 1909, 1914-15, 1927-28. WSP 1315-A: 1916(M), 1918(M), 1941(M). WSP 1931: Drainage area. WDR CA-69-2: 1965.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 285.77 ft above sea level. See WSP 2131 for history of changes prior to September 1968.

REMARKS.--Records good. Flow completely regulated by Shasta Lake (station 11370000), 52 mi upstream, since Dec. 30, 1943. Diversions, in addition to those on tributaries, for irrigation of about 22,000 acres between stations at Keswick and above Bend Bridge. Transbasin diversion from Trinity River to Whiskeytown Lake (station 11371700) via Judge Francis Carr Powerplant (station 11525430) started in April 1963. See schematic diagrams of upper Sacramento River and Battle Creek basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291,000 ft^3/s, Feb. 28, 1940, gage height, 38.9 ft, site and datum then in use, from rating curve extended above 170,000 ft^3/s on basis of velocity-area studies; minimum (water years 1892-1997), 2,000 ft^3/s, Mar. 29, 1944. Since regulation by Shasta Lake in 1943, maximum discharge, 170,000 ft^3/s, Dec. 22, 1964, gage height, 28.15 ft, site and datum then in use; maximum gage height, 36.60 ft, Jan. 24, 1970.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8300	6500	6600	103000	42100	8170	7420	9640	10700	15700	14800	9880
2	8170	6470	6640	97400	35600	8410	7540	9450	11000	15700	14700	10200
3	8210	6460	6600	91000	29500	8360	7430	9150	11100	15500	14800	10400
4	8040	6450	6610	93300	27700	8220	7360	9090	12000	15300	14900	10700
5	7840	6420	12300	83700	31100	8120	7340	9050	11500	15100	14600	10700
6	7790	6410	9200	62900	30700	8100	7290	9240	11600	15100	14400	10700
7	7780	6400	8700	57300	30300	7900	7280	9400	11600	14800	14000	10800
8	7760	6310	17000	56500	28300	7720	7220	9610	11900	15000	13900	10100
9	7570	6470	26600	55900	24400	7700	7210	9730	12100	15500	13700	9200
10	7200	6510	43100	55100	21400	7680	7180	9800	12600	15600	13500	9040
11	6870	6450	43700	55200	18700	7690	7090	10300	13200	15700	13200	8690
12	6570	6410	43900	56700	16000	7680	6970	10700	14400	15700	12700	8390
13	6430	6420	40400	56500	13800	7610	7210	10600	14900	15700	12100	8390
14	6350	6420	35200	53000	12300	7560	7540	10600	15200	15900	12500	8610
15	6240	6280	30000	55700	11000	7520	7670	10700	15900	15600	11900	8780
16	6150	6280	25900	48900	9910	7900	7620	11000	15900	15800	10900	8660
17	6210	6490	22400	40300	e10300	11500	7760	10900	15900	15600	10400	8330
18	6260	6810	19900	39000	e9900	9150	7990	10800	16000	15400	10500	8090
19	6320	7330	18800	36200	e9400	8520	8900	10700	16000	15500	10400	7920
20	6290	8610	18700	31900	e9100	8330	9050	10700	15500	15400	10700	7700
21	6280	7250	19000	31500	8790	8300	9130	10600	15200	15600	10500	7620
22	6280	7760	20400	57400	8730	8260	8990	10600	15300	15700	9770	7600
23	6300	7800	19300	45600	8720	8130	10100	10900	15300	16000	9500	7510
24	6330	7090	16100	42800	8720	8050	8770	11300	15300	15400	9540	7470
25	6370	6900	14000	64400	8400	8000	8560	11200	15400	15500	9540	7460
26	6410	6790	18000	59600	8330	7960	9080	11200	15200	15200	9320	7470
27	6460	6700	25300	43400	8280	7830	9610	11200	15600	14600	9120	7390
28	6470	6630	32900	42300	8220	7760	9620	11000	15600	14600	8910	7330
29	6610	6560	46600	50800	---	7680	10200	10500	15600	14700	8810	7260
30	6770	6540	72000	47300	---	7660	9910	10200	15700	14900	9160	7070
31	6600	---	95300	45800	---	7720	---	10500	---	14800	9250	---
TOTAL	213230	201920	821150	1760400	489700	251190	245040	320360	423200	476600	362020	259460
MEAN	6878	6731	26490	56790	17490	8103	8168	10330	14110	15370	11680	8649
MAX	8300	8610	95300	103000	42100	11500	10200	11300	16000	16000	14900	10800
MIN	6150	6280	6600	31500	8220	7520	6970	9050	10700	14600	8810	7070
AC-FT	422900	400500	1629000	3492000	971300	498200	486000	635400	839400	945300	718100	514600

e Estimated.

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1892 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4853	7538	11940	18960	24760	22210	18280	12310	7635	5127	4381	4404
MAX	10910	21420	42780	72340	69240	73280	38810	27910	17640	10170	9050	8481
(WY)	1905	1904	1893	1909	1902	1904	1904	1896	1906	1893	1893	1893
MIN	2847	3300	3618	4142	4778	4434	4014	3253	2969	2622	2505	2551
(WY)	1933	1937	1937	1937	1920	1924	1924	1924	1924	1931	1931	1934

SUMMARY STATISTICS	WATER YEARS 1892 - 1943	
ANNUAL MEAN	11800	
HIGHEST ANNUAL MEAN	22180	1904
LOWEST ANNUAL MEAN	4096	1924
HIGHEST DAILY MEAN	261000	Feb 28 1940
LOWEST DAILY MEAN	2400	Aug 13 1931
ANNUAL SEVEN-DAY MINIMUM	2470	Aug 7 1931
INSTANTANEOUS PEAK FLOW	291000	Feb 28 1940
INSTANTANEOUS PEAK STAGE	38.9	Feb 28 1940
ANNUAL RUNOFF (AC-FT)	8545000	
10 PERCENT EXCEEDS	24000	
50 PERCENT EXCEEDS	6500	
90 PERCENT EXCEEDS	3520	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1962, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6501	6932	11440	16840	19340	11950	10210	10260	9469	10030	10030	7510
MAX	10490	11180	29530	52620	76870	24840	32420	17830	12930	11630	11800	10230
(WY)	1958	1958	1956	1956	1958	1958	1958	1948	1948	1951	1958	1958
MIN	5468	4681	4336	5104	4579	4727	5335	6788	7253	7476	7080	5289
(WY)	1960	1960	1960	1957	1948	1955	1950	1947	1947	1947	1947	1947

SUMMARY STATISTICS	WATER YEARS 1946 - 1962	
ANNUAL MEAN	10840	
HIGHEST ANNUAL MEAN	20330	1958
LOWEST ANNUAL MEAN	6690	1947
HIGHEST DAILY MEAN	125000	Feb 19 1958
LOWEST DAILY MEAN	3640	Jan 31 1949
ANNUAL SEVEN-DAY MINIMUM	3830	Feb 27 1948
INSTANTANEOUS PEAK FLOW	139000	Feb 19 1958
INSTANTANEOUS PEAK STAGE	24.98	Feb 19 1958
ANNUAL RUNOFF (AC-FT)	7852000	
10 PERCENT EXCEEDS	16900	
50 PERCENT EXCEEDS	8430	
90 PERCENT EXCEEDS	5190	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6824	9182	14250	19000	18970	17390	12190	12110	12030	12760	11650	8473
MAX	10600	29690	43350	61060	58190	75830	35110	22920	17460	15690	14930	12040
(WY)	1984	1974	1984	1970	1983	1983	1974	1995	1983	1995	1995	1995
MIN	3935	4068	4296	4573	4700	5476	4804	7322	7431	7811	7998	5323
(WY)	1978	1993	1977	1992	1990	1994	1991	1992	1992	1992	1992	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	5807170		5824270			
ANNUAL MEAN	15870		15960		12880	
HIGHEST ANNUAL MEAN					25450	1983
LOWEST ANNUAL MEAN					6494	1991
HIGHEST DAILY MEAN	95300	Dec 31	103000	Jan 1	127000	Jan 27 1970
LOWEST DAILY MEAN	6150	Oct 16	6150	Oct 16	3200	Oct 11 1977
ANNUAL SEVEN-DAY MINIMUM	6250	Oct 15	6250	Oct 15	3210	Oct 10 1977
INSTANTANEOUS PEAK FLOW			121000	Jan 1	170000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			30.62	Jan 1	36.60	Jan 24 1970
ANNUAL RUNOFF (AC-FT)	11520000		11550000		9333000	
10 PERCENT EXCEEDS	31400		37300		19800	
50 PERCENT EXCEEDS	13500		10200		9970	
90 PERCENT EXCEEDS	6470		6590		5440	

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1955-81, 1996 to current year.
CHEMICAL DATA: Water years 1955-81, February 1996 to current year. Published as "Sacramento River at Bend" from May 1955 to September 1973; as Sacramento River at Bend Bridge (station 11377200) from October 1973 to September 1976.
WATER TEMPERATURE: Water years 1955 to June 1980 (water years 1955-63 reported as station 11377200; water years 1964-70 as station 11378000).
SEDIMENT DATA: Water year 1958-70 (water years 1958-67 reported as station 11378500; water years 1968-70 as station 11377200), 1977 to May 1983, February 1996 to current year

PERIOD OF DAILY RECORD.--
CHEMICAL DATA: May 1955 to September 1963.
SPECIFIC CONDUCTANCE: May 1955 to September 1963.
WATER TEMPERATURES: May 1955 to June 1980.
SUSPENDED SEDIMENT: October 1957 to September 1970, January 1977 to May 1980 (storm season only for water years 1977, 1979-80).

REMARKS.--National Water-Quality Assessment (NAWQA) Program site established February 1996. Samples collected from Bend Bridge, 2.7 mi downstream from gaging station.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
23...	1020	6300	114	7.7	12.5	756	10.2	96	11	5.1
NOV										
22...	1330	7780	129	7.8	13.0	750	9.7	94	11	5.3
DEC										
12...	1700	42200	111	7.8	12.0	756	11.0	103	10	5.3
JAN										
03...	1230	86400	104	7.9	10.5	760	11.4	103	9.4	3.9
FEB										
20...	0930	10600	120	7.9	9.0	763	11.1	95	11	4.8
MAR										
20...	1000	8300	123	7.9	11.5	758	10.8	100	11	5.0
APR										
22...	0950	9140	112	7.9	12.0	756	10.4	97	9.6	4.8
MAY										
30...	1200	10100	111	7.7	12.5	753	10.4	98	9.0	4.9
JUN										
25...	1000	15400	110	7.5	12.0	752	10.6	99	9.0	4.7
JUL										
23...	1000	16000	108	7.6	11.5	757	10.7	99	9.3	4.7
AUG										
21...	1000	10700	114	7.7	12.5	757	10.1	96	10	4.7
SEP										
17...	1000	8390	124	7.6	12.5	749	11.2	107	11	5.1

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
23...	6.1	21	1.1	50	3.6	2.1	<.10	21	75	84
NOV										
22...	7.2	24	1.3	52	5.4	4.4	<.10	22	93	91
DEC										
12...	6.1	22	1.3	50	4.6	2.2	<.10	22	84	84
JAN										
03...	4.9	21	1.1	43	4.0	1.7	<.10	18	71	72
FEB										
20...	5.7	20	1.0	50	5.7	2.5	.10	21	86	86
MAR										
20...	6.4	22	1.1	49	6.4	2.8	<.10	20	87	87
APR										
22...	5.1	20	.86	43	4.2	2.4	<.10	20	89	77
MAY										
30...	5.0	20	1.0	46	3.2	1.9	<.10	20	77	76
JUN										
25...	5.1	21	1.1	44	3.1	1.7	<.10	19	82	75
JUL										
23...	5.3	21	1.1	47	3.1	1.7	<.10	20	81	76
AUG										
21...	6.0	22	1.2	49	3.2	1.8	<.10	21	86	82
SEP										
17...	7.2	24	1.4	52	3.9	2.4	<.10	23	86	90

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
23...	.10	.010	.110	<.015	<.20	<.20	.020	.020	.030	7.0
NOV										
22...	.13	.020	.250	.090	<.20	<.20	.030	.030	.030	11
DEC										
12...	.11	.020	.140	.020	<.20	<.20	.050	<.010	.020	24
JAN										
03...	.10	<.010	.100	<.015	.30	<.20	.230	<.010	<.010	15
FEB										
20...	.12	.020	.150	<.015	<.20	<.20	.030	<.010	<.010	9.0
MAR										
20...	.12	<.010	.100	<.015	<.20	<.20	<.010	<.010	.020	10
APR										
22...	.12	<.010	.097	<.015	<.20	<.20	.041	.020	.025	7.8
MAY										
30...	.10	<.010	.098	<.015	<.20	<.20	.062	.018	.020	6.9
JUN										
25...	.11	<.010	.108	<.015	<.20	<.20	.041	.019	.019	7.2
JUL										
23...	.11	<.010	.080	<.015	<.20	<.20	.037	<.010	.020	5.7
AUG										
21...	.12	<.010	.103	<.015	<.20	<.20	.016	.027	.020	5.0
SEP										
17...	.12	<.010	.112	<.015	<.20	<.20	.031	.013	.031	8.9

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT										
23...	<1.0	1	15	<1.0	<1.0	<1.0	<1.0	1.0	11	<1.0
NOV										
22...	<1.0	1	18	<1.0	<1.0	1.0	<1.0	2.0	13	<1.0
DEC										
12...	<1.0	1	17	<1.0	<1.0	<1.0	<1.0	3.0	14	<1.0
JAN										
03...	<1.0	1	15	<1.0	<1.0	1.0	<1.0	2.0	25	<1.0
FEB										
20...	<1.0	1	17	<1.0	<1.0	<1.0	<1.0	1.0	9.0	<1.0
MAR										
20...	<1.0	<1	17	<1.0	<1.0	<1.0	<1.0	1.0	12	<1.0
APR										
22...	<1.0	1	15	<1.0	<1.0	1.0	<1.0	1.5	7.1	<1.0
MAY										
30...	<1.0	<1	15	<1.0	<1.0	1.2	<1.0	<1.0	5.1	<1.0
JUN										
25...	<1.0	1	13	<1.0	<1.0	<1.0	<1.0	1.4	4.5	<1.0
JUL										
23...	<1.0	1	13	<1.0	<1.0	1.5	<1.0	1.3	3.0	<1.0
AUG										
21...	<1.0	<1	15	<1.0	<1.0	<1.0	<1.0	1.1	7.0	<1.0
SEP										
17...	<1.0	1	16	<1.0	<1.0	1.0	<1.0	<1.0	9.3	<1.0

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT									
23...	2.0	<1.0	1.0	<1	<1.0	1.0	<1.0	1.2	.30
NOV									
22...	3.0	<1.0	1.0	<1	<1.0	2.0	<1.0	1.6	.30
DEC									
12...	3.0	<1.0	<1.0	<1	<1.0	3.0	<1.0	1.5	.40
JAN									
03...	6.0	<1.0	1.0	<1	<1.0	1.0	<1.0	1.5	1.0
FEB									
20...	6.0	<1.0	1.0	<1	<1.0	2.0	<1.0	1.3	.20
MAR									
20...	4.0	<1.0	<1.0	<1	<1.0	--	<1.0	1.5	.10
APR									
22...	2.2	<1.0	<1.0	<1	<1.0	1.5	<1.0	1.6	.30
MAY									
30...	2.1	<1.0	1.3	<1	<1.0	1.2	<1.0	--	--
JUN									
25...	2.0	<1.0	1.5	<1	<1.0	1.8	<1.0	1.3	.10
JUL									
23...	2.4	<1.0	1.4	<1	<1.0	1.9	<1.0	3.2	.20
AUG									
21...	2.0	<1.0	<1.0	<1	<1.0	1.8	<1.0	--	--
SEP									
17...	3.0	<1.0	<1.0	<1	<1.0	1.4	<1.0	1.4	<.20

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (0061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
23...N	1020	6300	12.5	3	51
NOV					
22...N	1330	7780	13.0	15	315
DEC					
12...N	1700	42200	12.0	51	5810
JAN					
03...N	1230	86400	10.5	355	82800
FEB					
20...N	0930	10600	9.0	37	1060
MAR					
20...N	1000	8300	11.5	22	493
APR					
22...N	0950	9140	12.0	27	666
MAY					
30...N	1200	10100	12.5	14	382
JUN					
25...N	1000	15400	12.0	14	582
JUL					
23...N	1000	16000	11.5	9	389
AUG					
21...N	1000	10700	12.5	9	260
SEP					
17...N	1000	8390	12.5	9	204

11379500 ELDER CREEK NEAR PASKENTA, CA

LOCATION.--Lat 40°01'29", long 122°30'31", in SE 1/4 NW 1/4 sec.14, T.25 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank 2.5 mi downstream from South Fork Elder Creek, 8.2 mi northwest of Flournoy, and 10 mi north of Paskenta.

DRAINAGE AREA.--92.4 mi^2.

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1959-66.
WATER TEMPERATURE: Water year 1963.
SEDIMENT DATA: Water years 1963-70.

REVISED RECORDS.--WSP 1515: 1956. WDR CA-70-2: 1967(P). WDR CA-75-4: 1966-67(P), 1969-71(P), 1973(P). WDR CA-78-4: Drainage area. WDR CA-94-4: 1993(P).

GAGE.--Water-stage recorder. Datum of gage is 718.1 ft above sea level. Prior to Aug. 13, 1965, water-stage recorder at site 300 ft downstream at datum 5.13 ft lower.

REMARKS.--Records good. No regulation or large diversion upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft^3/s, Feb. 28, 1983, gage height, 12.10 ft, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurements at gage height 11.34 ft and of peak flow; maximum gage height, 13.90 ft, Feb. 24, 1958, site and datum then in use; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 9	1545	2,720	6.93	Jan. 25	2300	3,350	7.44
Dec. 31	2345	11,500	10.75				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	10	19	4480	467	79	60	32	14	7.9	1.3	1.5
2	2.3	8.7	18	1560	389	89	57	31	14	11	1.2	1.4
3	2.5	8.0	17	986	324	79	54	30	17	7.9	1.0	1.3
4	2.4	8.0	48	657	289	73	53	28	23	6.3	.89	1.2
5	2.5	7.8	378	489	257	70	50	27	18	5.5	.85	1.1
6	2.2	7.4	103	368	229	68	49	27	14	4.7	.73	.93
7	2.2	7.4	110	300	211	66	48	26	13	4.3	.55	.98
8	2.0	7.4	182	259	196	63	47	25	12	3.7	.42	.87
9	1.9	7.3	1170	229	180	61	44	25	11	3.2	.39	.87
10	1.8	7.1	926	205	172	60	43	24	12	3.0	.56	.98
11	2.0	7.2	320	188	161	58	42	23	12	2.9	.66	1.2
12	2.3	7.2	250	174	151	59	41	22	11	2.6	.77	1.2
13	2.4	7.3	177	158	142	57	41	21	10	2.5	.89	1.3
14	2.5	7.0	133	145	134	56	41	20	9.4	2.5	.67	1.9
15	2.5	7.0	106	141	127	56	39	20	9.0	2.5	.54	3.5
16	2.3	7.7	90	133	125	104	37	20	8.6	2.3	.62	3.5
17	2.5	18	77	126	130	191	37	22	8.3	2.2	.51	3.0
18	3.2	116	68	120	120	125	38	19	7.6	2.2	.64	3.0
19	4.7	258	61	114	115	108	55	18	7.0	2.0	.81	2.7
20	4.2	101	57	114	110	104	54	17	6.5	1.8	2.1	2.2
21	4.2	49	62	112	107	105	51	17	6.2	1.8	3.4	2.0
22	4.3	74	65	312	103	101	49	17	6.4	1.6	2.6	1.8
23	4.6	56	59	227	98	99	49	21	6.3	1.4	2.1	1.8
24	4.7	38	53	219	93	93	44	21	6.0	1.5	2.0	1.5
25	4.7	30	51	1730	89	89	39	19	5.7	1.4	2.0	1.4
26	4.7	26	174	1540	87	86	37	17	5.4	1.4	1.9	1.4
27	4.5	23	426	747	85	82	35	18	5.1	1.2	1.8	1.5
28	4.5	21	346	1100	82	78	34	18	5.4	1.3	1.6	1.2
29	47	19	1470	776	---	70	34	17	7.0	1.1	1.8	1.2
30	45	18	1750	589	---	67	33	16	8.1	1.1	1.8	1.2
31	14	---	3570	510	---	64	---	14	---	1.4	1.7	---
TOTAL	192.6	969.5	12336	18808	4773	2560	1335	672	299.0	96.2	38.80	49.63
MEAN	6.21	32.3	398	607	170	82.6	44.5	21.7	9.97	3.10	1.25	1.65
MAX	47	258	3570	4480	467	191	60	32	23	11	3.4	3.5
MIN	1.8	7.0	17	112	82	56	33	14	5.1	1.1	.39	.87
AC-FT	382	1920	24470	37310	9470	5080	2650	1330	593	191	77	98

11379500 ELDER CREEK NEAR PASKENTA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.38	48.1	136	255	276	232	144	75.7	27.4	8.15	3.14	3.01
MAX	102	310	649	1208	1636	1176	497	355	128	28.7	11.1	11.3
(WY)	1958	1974	1984	1995	1958	1983	1958	1983	1967	1983	1983	1978
MIN	.66	2.89	4.06	5.38	7.00	22.6	13.8	13.4	2.52	.32	.002	.14
(WY)	1992	1991	1991	1991	1977	1964	1977	1977	1977	1977	1994	1991

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1949 - 1997	
ANNUAL TOTAL	50429.7		42129.73			
ANNUAL MEAN	138		115		101	
HIGHEST ANNUAL MEAN					303	1983
LOWEST ANNUAL MEAN					6.69	1977
HIGHEST DAILY MEAN	3570	Dec 31	4480	Jan 1	7650	Dec 22 1964
LOWEST DAILY MEAN	1.2	Sep 1	.39	Aug 9	.00	Aug 6 1950
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 6	.58	Aug 6	.00	Aug 14 1950
INSTANTANEOUS PEAK FLOW			11500	Dec 31	17700	Feb 28 1983
INSTANTANEOUS PEAK STAGE			10.75	Dec 31	13.90	Feb 24 1958
ANNUAL RUNOFF (AC-FT)	100000		83560		72940	
10 PERCENT EXCEEDS	366		214		232	
50 PERCENT EXCEEDS	38		19		19	
90 PERCENT EXCEEDS	1.9		1.3		1.5	

11381500 MILL CREEK NEAR LOS MOLINOS, CA

LOCATION.--Lat 40°03'17", long 122°01'23", in NE 1/4 NW 1/4 sec.6, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on right bank 4.5 mi northeast of Los Molinos and 5.5 mi upstream from mouth.

DRAINAGE AREA.--131 mi^2.

PERIOD OF RECORD.--September 1909 to August 1913 (fragmentary), October 1928 to current year.

REVISED RECORDS.--WSP 1315-A: 1929(M). WSP 1931: Drainage area. WSP 2131: 1938(M).

GAGE.--Water-stage recorder. Elevation of gage is 385 ft above sea level, from topographic map. Prior to September 1913, nonrecording gage at site 0.3 mi downstream at different datum.

REMARKS.--Records good. No storage or large diversion upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD (water years 1929-96).--Maximum discharge, 36,400 ft^3/s, Dec. 11, 1937, gage height, 23.4 ft, from floodmarks, from rating curve extended above 14,000 ft^3/s on basis of step-backwater computation and slope-area measurement of peak flow; minimum, 49 ft^3/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0730	6,570	10.51	Jan. 22	1530	3,970	7.47
Jan. 1	0515	20,600	17.10	Jan. 25	1200	5,700	9.08

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	120	214	14400	670	258	291	353	283	191	131	123
2	105	116	194	5600	594	275	276	346	277	181	130	123
3	105	116	177	2800	526	265	266	338	271	178	130	124
4	105	115	172	1660	482	252	264	343	406	174	129	122
5	101	115	996	1170	445	245	257	347	326	173	128	121
6	101	113	501	873	411	244	250	353	288	171	128	120
7	101	113	374	720	395	245	242	358	275	167	126	120
8	101	113	596	630	382	246	238	364	267	162	124	120
9	98	112	1070	576	363	244	237	361	264	161	123	120
10	98	112	2880	518	349	244	231	381	271	160	124	120
11	98	112	1040	472	337	249	227	402	256	158	125	120
12	99	111	900	441	328	253	229	402	255	154	125	119
13	99	111	849	407	313	248	229	402	253	153	124	118
14	100	111	601	367	307	246	230	381	243	151	123	124
15	99	111	437	350	303	252	236	380	243	150	122	137
16	98	112	357	338	302	419	248	374	239	149	120	125
17	99	127	307	329	331	513	261	355	235	149	120	123
18	104	276	270	317	316	399	269	356	231	148	121	149
19	116	397	250	307	305	359	645	354	224	147	121	130
20	106	426	238	323	300	342	531	349	217	145	144	124
21	104	231	249	483	292	355	683	334	211	142	147	121
22	103	431	256	2150	289	362	599	317	205	141	133	120
23	105	334	250	1050	281	361	604	330	201	139	130	120
24	107	221	231	735	274	358	484	328	195	139	129	118
25	132	204	223	3290	270	356	422	291	192	138	127	118
26	121	185	1250	2900	270	352	408	280	189	137	126	118
27	114	175	1510	1690	273	368	422	273	186	136	126	118
28	112	172	1010	1660	267	352	425	278	183	136	125	117
29	123	169	2020	1180	---	323	375	277	182	135	125	115
30	137	165	3820	885	---	312	352	277	184	133	125	115
31	125	---	10600	745	---	314	---	285	---	132	125	---
TOTAL	3321	5326	33842	49366	9975	9611	10431	10569	7252	4730	3936	3662
MEAN	107	178	1092	1592	356	310	348	341	242	153	127	122
MAX	137	431	10600	14400	670	513	683	402	406	191	147	149
MIN	98	111	172	307	267	244	227	273	182	132	120	115
AC-FT	6590	10560	67130	97920	19790	19060	20690	20960	14380	9380	7810	7260

11381500 MILL CREEK NEAR LOS MOLINOS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	124	199	353	450	469	449	431	440	326	176	117	106
MAX	684	1039	1365	1837	1744	1278	862	923	736	456	230	168
(WY)	1963	1974	1965	1970	1986	1983	1982	1938	1983	1983	1983	1983
MIN	76.0	75.1	87.4	96.8	98.6	107	112	122	94.9	67.8	61.4	65.4
(WY)	1930	1930	1977	1977	1977	1977	1977	1977	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1929 - 1997	
ANNUAL TOTAL	152343		152021			
ANNUAL MEAN	416		416		303	
HIGHEST ANNUAL MEAN					576	1974
LOWEST ANNUAL MEAN					93.6	1977
HIGHEST DAILY MEAN	10600	Dec 31	14400	Jan 1	14400	Jan 1 1997
LOWEST DAILY MEAN	98	Oct 9	98	Oct 9	52	Dec 12 1932
ANNUAL SEVEN-DAY MINIMUM	99	Oct 9	99	Oct 9	60	Jul 28 1931
INSTANTANEOUS PEAK FLOW			20600	Jan 1	36400	Dec 11 1937
INSTANTANEOUS PEAK STAGE			17.10	Jan 1	23.40	Dec 11 1937
ANNUAL RUNOFF (AC-FT)	302200		301500		219200	
10 PERCENT EXCEEDS	757		597		577	
50 PERCENT EXCEEDS	273		244		178	
90 PERCENT EXCEEDS	111		115		91	

11382000 THOMES CREEK AT PASKENTA, CA

LOCATION.--Lat 39°53'16", long 122°31'41", in SE 1/4 SW 1/4 sec.34, T.24 N., R.6 W., Tehama County, Hydrologic Unit 18020103, on left bank 1.0 mi downstream from highway bridge and 1.2 mi downstream from Digger Creek at Paskenta.

DRAINAGE AREA.--203 mi^2.

PERIOD OF RECORD.--October 1920 to September 1996; October 1996 to September 1997, stage only (discontinued). Monthly discharge only for some periods, published in WSP 1315-A. Prior to 1943, published as Thomas Creek at Paskenta.
CHEMICAL DATA: Water years 1959-81.
WATER TEMPERATURE: Water years 1962-79, 1981-83.
SEDIMENT DATA: Water years 1963-73, 1981-83.

REVISED RECORDS.--WSP 1345: 1923, 1924-28(M), 1938, 1940(M). WDR CA-78-4: Drainage area. WDR CA-79-4: 1965(M). WDR CA-81-4: 1980(M). WDR CA-86-4.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 720 ft above sea level, from topographic map. Prior to June 20, 1942, nonrecording gage and water-stage recorder at several sites about 1.5 mi upstream at different datums; June 21, 1942, to Sept. 30, 1959, water-stage recorder at site 1.4 mi upstream at datum 732.85 ft and Oct. 1, 1959, to Oct. 9, 1974, at datum 731.10 ft above sea level.

REMARKS.--Records fair. No storage or large diversions upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,800 ft^3/s, Dec. 22, 1964, gage height, 12.7 ft, from floodmarks, present site and datum, from rating curve extended above 6,000 ft^3/s on basis of slope-area measurements at gage height 10.10 ft and of peak flow; no flow at times some years.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.79	1.77	2.14	2.09	3.75	2.82	11.30	9.76	5.37	5.00	3.58	3.56
2	1.80	1.79	2.09	2.08	3.35	3.06	10.08	6.94	5.00	4.77	3.69	3.56
3	1.81	1.78	2.08	2.06	3.12	3.02	7.36	6.05	4.77	4.59	3.63	3.56
4	1.80	1.77	2.06	2.04	7.01	2.99	6.05	5.53	4.59	4.45	3.56	3.50
5	1.80	1.79	2.04	2.02	7.62	4.47	5.53	5.05	4.45	4.31	3.50	3.50
6	1.80	1.78	2.03	2.00	4.48	3.85	5.05	4.67	4.31	4.21	3.50	3.50
7	1.78	1.75	2.02	2.00	5.59	3.66	4.67	4.38	4.21	4.17	3.50	3.49
8	1.77	1.75	2.01	1.99	5.92	4.76	4.38	4.18	4.17	4.09	3.49	3.49
9	1.77	1.75	2.00	2.00	6.63	4.75	4.18	4.05	4.09	4.04	3.49	3.48
10	1.77	1.75	2.02	1.99	6.10	5.35	4.05	3.97	4.04	3.98	3.48	3.48
11	1.78	1.75	1.99	1.98	6.10	4.94	3.97	3.92	3.98	3.92	3.48	3.48
12	1.78	1.78	1.99	1.98	5.91	4.87	3.92	3.86	3.92	3.87	3.48	3.48
13	1.78	1.77	1.99	1.97	5.27	4.67	3.86	3.77	3.87	3.81	3.48	3.47
14	1.78	1.76	1.98	1.96	4.74	4.36	3.77	3.72	3.81	3.80	3.47	3.45
15	1.78	1.75	1.99	1.97	4.40	4.13	3.72	3.71	3.80	3.80	3.45	3.45
16	1.78	1.75	2.10	1.99	4.16	4.00	3.71	3.67	3.80	3.80	4.69	3.45
17	1.78	1.75	2.37	2.10	4.02	3.91	3.67	3.64	3.86	3.80	4.69	4.08
18	1.85	1.77	---	---	3.93	3.78	3.64	3.60	3.86	3.79	4.08	3.89
19	1.85	1.84	---	---	3.82	3.68	3.60	3.58	3.79	3.79	3.89	3.83
20	1.88	1.85	---	---	3.86	3.64	3.58	3.58	3.79	3.79	3.83	3.83
21	1.86	1.83	4.11	3.61	4.04	3.75	3.58	3.58	3.79	3.75	3.86	3.83
22	1.89	1.83	4.23	3.65	3.87	3.70	4.27	3.58	3.75	3.71	3.86	3.82
23	1.90	1.88	4.11	3.64	3.77	3.61	3.79	3.58	3.71	3.67	3.82	3.79
24	1.91	1.89	3.72	3.45	3.66	3.53	4.67	3.54	3.67	3.64	3.79	3.75
25	1.92	1.88	3.48	3.28	3.74	3.54	6.40	4.67	3.64	3.61	3.75	3.73
26	2.13	1.92	3.28	3.12	6.49	3.72	6.30	5.57	3.61	3.61	3.73	3.73
27	2.13	2.02	3.12	3.04	6.20	5.49	5.57	5.12	3.61	3.61	3.73	3.68
28	2.02	1.97	3.05	3.00	5.91	5.51	6.50	5.12	3.61	3.58	3.68	3.63
29	2.48	1.96	3.03	2.94	7.47	5.65	5.73	5.31	---	---	3.63	3.58
30	2.51	2.19	2.94	2.81	10.70	5.56	5.31	5.05	---	---	3.58	3.55
31	2.19	2.14	---	---	11.15	8.06	5.35	5.02	---	---	3.55	3.50
MONTH	2.51	1.75	---	---	11.15	2.82	11.30	3.54	5.37	3.58	4.69	3.45

11382000 THOMES CREEK AT PASKENTA, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.50	3.46	---	---	---	---	---	---	---	---	---	---
2	3.46	3.43	---	---	---	---	---	---	---	---	---	---
3	3.43	3.41	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	3.94	3.82	---	---	---	---	---	---	---	---	---	---
21	3.97	3.77	---	---	---	---	---	---	---	---	---	---
22	3.97	3.74	---	---	---	---	---	---	---	---	---	---
23	4.02	3.74	---	---	---	---	---	---	---	---	---	---
24	3.79	3.64	---	---	---	---	---	---	---	---	---	---
25	3.64	3.55	---	---	---	---	---	---	---	---	---	---
26	3.55	3.50	---	---	---	---	---	---	---	---	---	---
27	3.50	3.47	---	---	---	---	---	---	---	---	---	---
28	3.47	3.44	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11383500 DEER CREEK NEAR VINA, CA

LOCATION.--Lat 40°00'51", long 121°56'50", in NW 1/4 NE 1/4 sec.23, T.25 N., R.1 W., Tehama County, Hydrologic Unit 18020103, on left bank 0.5 mi upstream from irrigation diversion dam and 7.9 mi northeast of Vina.

DRAINAGE AREA.--208 mi^2.

PERIOD OF RECORD.--October 1911 to September 1915, March 1920 to current year. December 1937 to January 1939 first published in WDR CA-94-4. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1940-42(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 479.2 ft above sea level, from river-profile survey. Prior to Oct. 9, 1928, nonrecording gage at site 0.8 mi downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft higher.

REMARKS.--Records good. No storage or large diversions upstream from station. See schematic diagram of upper Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft^3/s, Jan. 1, 1997, gage height, 15.56 ft, from rating curve extended above 9,200 ft^3/s; maximum gage height, 19.20 ft, Dec. 10, 1937; minimum, 43 ft^3/s, Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0730	6,200	10.19	Jan. 26	0115	6,260	9.09
Jan. 1	0615	24,000	15.56				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	128	174	20100	1110	323	342	302	169	157	100	94
2	109	123	187	9750	1010	346	321	285	167	139	100	93
3	110	122	155	4480	916	333	312	273	165	132	99	96
4	110	122	151	2760	840	311	303	262	221	128	99	95
5	109	121	981	1960	770	307	291	252	207	126	98	94
6	108	119	525	1470	705	302	282	248	174	122	97	94
7	108	118	353	1220	663	303	278	241	164	121	97	93
8	110	118	474	1040	627	303	272	236	159	120	96	93
9	112	118	1460	924	585	297	273	230	168	118	95	93
10	112	118	3580	828	557	296	264	224	188	118	95	93
11	112	118	1390	759	532	306	254	220	169	118	97	95
12	112	118	1200	702	511	307	247	215	166	117	97	95
13	113	118	1050	611	480	293	244	209	173	116	96	95
14	113	118	762	564	458	289	249	206	162	115	95	105
15	113	118	550	548	453	303	247	202	157	112	94	135
16	113	120	444	526	443	423	240	198	152	114	93	111
17	113	142	377	506	483	577	238	196	147	114	92	103
18	115	293	324	486	456	490	247	195	144	114	92	127
19	136	268	292	463	432	430	472	189	142	113	95	118
20	124	363	272	467	417	407	379	185	138	112	122	104
21	119	209	280	592	398	421	442	181	137	109	125	101
22	117	425	296	2130	386	436	423	178	136	107	104	102
23	118	384	289	1430	370	433	459	200	135	106	99	101
24	119	219	267	1040	354	428	406	245	133	106	98	99
25	140	184	255	3370	345	423	363	198	131	106	98	99
26	133	165	846	4220	350	412	340	184	130	104	97	99
27	127	153	2010	2490	353	413	326	180	128	104	96	98
28	121	147	1600	2280	337	395	318	176	126	103	96	95
29	135	144	2920	1780	---	368	327	176	125	103	95	95
30	154	139	5870	1410	---	359	306	172	131	103	95	96
31	138	---	14800	1210	---	367	---	167	---	102	95	---
TOTAL	3681	5152	44134	72116	15341	11401	9465	6625	4644	3579	3047	3011
MEAN	119	172	1424	2326	548	368	316	214	155	115	98.3	100
MAX	154	425	14800	20100	1110	577	472	302	221	157	125	135
MIN	108	118	151	463	337	289	238	167	125	102	92	93
AC-FT	7300	10220	87540	143000	30430	22610	18770	13140	9210	7100	6040	5970

11383500 DEER CREEK NEAR VINA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	113	195	381	548	621	582	533	389	199	117	97.5	94.6
MAX	775	984	1825	2458	2600	2105	1494	1193	572	267	194	174
(WY)	1963	1974	1956	1970	1986	1983	1982	1995	1983	1983	1983	1983
MIN	63.4	65.2	82.5	87.4	95.3	109	99.5	77.2	66.1	55.8	53.3	55.2
(WY)	1935	1930	1931	1991	1977	1977	1977	1924	1924	1931	1931	1931

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1912 - 1997	
ANNUAL TOTAL	183406		182196			
ANNUAL MEAN	501		499		321	
HIGHEST ANNUAL MEAN					700	1983
LOWEST ANNUAL MEAN					86.2	1977
HIGHEST DAILY MEAN	14800	Dec 31	20100	Jan 1	20100	Jan 1 1997
LOWEST DAILY MEAN	107	Sep 3	92	Aug 17	52	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	107	Sep 1	94	Sep 4	53	Aug 21 1931
INSTANTANEOUS PEAK FLOW			24000	Jan 1	24000	Jan 1 1997
INSTANTANEOUS PEAK STAGE			15.56	Jan 1	19.20	Dec 10 1937
ANNUAL RUNOFF (AC-FT)	363800		361400		232900	
10 PERCENT EXCEEDS	965		793		680	
50 PERCENT EXCEEDS	252		184		144	
90 PERCENT EXCEEDS	112		98		79	

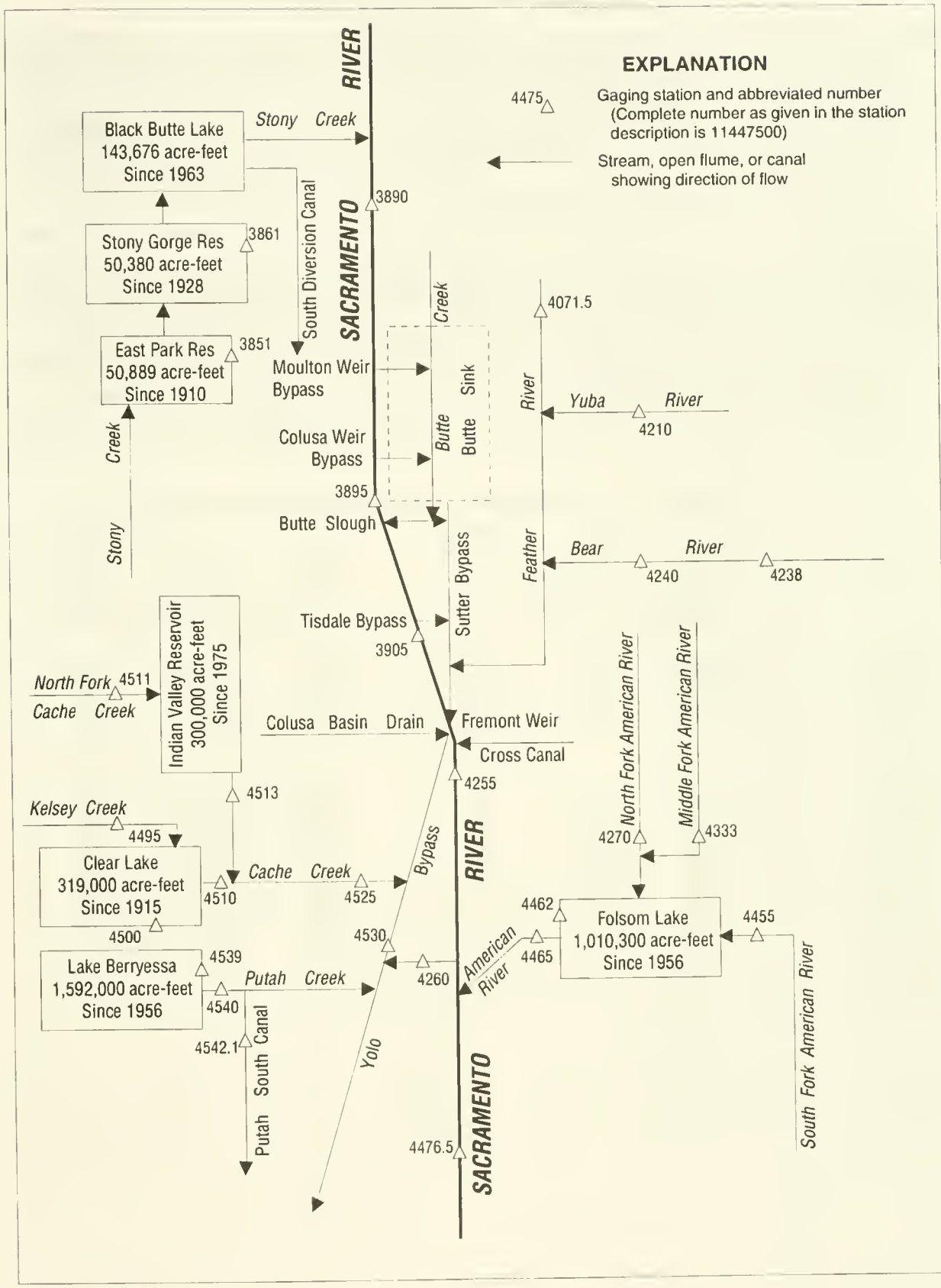

Figure 27. Diversions and storage in lower Sacramento River basin.

RESERVOIRS IN STONY CREEK BASIN, CA

11385100 EAST PARK RESERVOIR NEAR STONYFORD.--Lat 39°21'24", long 122°30'53", in SW 1/4 NE 1/4 sec.3, T.17 N., R.6 W., Colusa County, Hydrologic Unit 18020115, near south side of spillway section on East Park Dam on Little Stony Creek, 1.9 mi southeast of Stonyford. DRAINAGE AREA, 98.2 mi^2. PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by a concrete arch-type dam. Storage began in 1910. Capacity, 48,210 acre-ft, between elevations 1,131.68 ft, invert of sluice pipe, and 1,198.18 ft, crest of spillway. Capacity increased to 50,889 acre-ft with the addition of flashboards to an elevation of 1,199.68 ft. Dead storage, 279 acre-ft. Records of contents provided by U.S. Bureau of Reclamation. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,500 acre-ft, Mar. 30, 1974, elevation, 1,201.10 ft; minimum, 280 acre-ft, Aug. 8 to Oct. 31, 1972, Apr. 30 to Nov. 1, 1977, elevation, 1,131.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 51,618 acre-ft, Jan. 2, elevation, 1,200.08 ft; minimum, 8,597 acre-ft, Sept 30, elevation, 1,163.16

11386100 STONY GORGE RESERVOIR NEAR ELK CREEK.--Lat 39°35'09", long 122°31'54", in NE 1/4 SE 1/4 sec.16, T.20 N., R.6 W., Glenn County, Hydrologic Unit 18020115, on south end of Stony Gorge Dam on Stony Creek, 1.3 mi southeast of Elk Creek. DRAINAGE AREA, 301 mi^2. PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by slab and buttress-type dam. Storage began in 1928. Capacity, 50,380 acre-ft between elevations 728.0 ft, top of low intake, and 841.0 ft, crest of spillway. No dead storage. Records of contents provided by U.S. Bureau of Reclamation. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,630 acre-ft, Mar. 26, 1971, elevation, 844.20 ft; minimum, 3,810 acre-ft, Nov. 6, 1971, elevation, 779.20 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,280 acre-ft, June 9, elevation, 840.92 ft; minimum, 10,869 acre-ft, Sept 4, elevation, 797.28 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800 HOURS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	11385100 EAST PARK RESERVOIR			11386100 STONY GORGE RESERVOIR		
Sept. 30	1,194.94	42,713	-3,179	827.54	34,560	-538
Oct. 31	1,193.20	39,921	-2,792	829.50	36,660	2,100
Nov. 30	1,193.68	40,682	761	829.81	36,997	337
Dec. 31	1,199.00	49,665	8,983	834.30	42,096	5,099
CAL YR 1996	--	--	3,536	--	--	1,121
Jan. 31	1,198.68	49,099	-566	830.99	38,300	-3,796
Feb. 28	1,198.28	48,391	-708	830.25	37,481	-819
Mar. 31	1,198.22	48,284	-107	840.26	49,429	11,948
Apr. 30	1,197.60	47,202	-1,082	840.38	49,584	155
May 31	1,193.76	40,809	-6,393	840.78	50,099	515
June 30	1,189.64	34,557	-6,252	834.66	42,520	-7,579
July 31	1,185.06	28,342	-6,215	818.82	26,067	-16,453
Aug. 31	1,179.70	22,046	-6,296	797.64	11,060	-15,007
Sept. 30	1,163.16	8,597	-13,449	799.73	12,207	1,147
WTR YR 1997	--	--	-34,116	--	--	-22,353

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA

LOCATION.--Lat 39°27'28", long 121°59'35", in SE 1/4 NE 1/4 sec.32, T.19 N., R.1 W., Glenn County, Hydrologic Unit 18020104, on left bank 100 ft upstream from highway bridge, 0.5 mi south of Butte City, and at mile 115.8 upstream from Sacramento.

DRAINAGE AREA.--12,080 mi^2.

PERIOD OF RECORD.--April 1921 to June 1995 (water discharge), (prior to October 1938, low-water periods only), July 1995 to September 1997 (gage heights only) (discontinued). Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1955-66.
WATER TEMPERATURE: Water years 1955-58, 1960-67, 1969-81.
SEDIMENT DATA: Water years 1978-80.

REVISED RECORDS.--WDR CA-86-4: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.92 ft below sea level. Prior to December 1930, at site 0.5 mi upstream at same datum.

REMARKS.--Natural flow affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 90,000 ft^3/s, overbank flow into Butte basin occurs upstream from left (east) bank levee. The combined overbank flow and tributary runoff then flows south on the east bank floodplain into the Butte Sink and Sutter Bypass. See schematic diagram showing diversions and storage in the lower Sacramento River basin. Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF RECORD (since 1941).--Maximum gage height, 96.87 ft, Feb. 7, 1942; minimum gage height prior to October 1990 is unknown. Minimum gage height since October 1990, 67.03 ft, June 10, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 95.02 ft, Jan. 2; minimum 69.52 ft, Oct. 17.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	70.93	70.83	70.12	69.98	---	---	94.02	90.93	86.34	85.57	72.07	71.95
2	70.92	70.74	70.00	69.93	---	---	95.02	94.02	85.59	83.78	72.04	71.92
3	70.78	70.70	69.96	69.88	---	---	94.50	---	83.78	81.68	72.14	71.96
4	70.75	70.67	69.97	69.89	70.54	70.44	---	---	81.68	80.23	72.07	71.87
5	70.70	70.54	69.92	69.85	72.99	70.49	---	---	80.43	79.94	71.87	71.70
6	70.59	70.54	69.89	69.81	74.49	72.95	---	---	80.46	80.09	71.73	71.64
7	70.55	70.52	69.89	69.84	72.95	72.05	---	---	80.14	79.62	71.65	71.57
8	70.54	70.43	69.88	69.83	75.15	71.88	---	---	79.66	79.30	71.59	71.44
9	70.46	70.40	69.84	69.76	76.98	75.15	---	---	79.31	78.32	71.44	71.37
10	70.46	70.25	69.96	69.81	84.20	76.98	---	---	78.50	77.41	71.39	71.34
11	70.27	70.09	69.99	69.92	85.10	84.04	---	---	77.46	76.71	71.36	71.34
12	70.10	69.92	69.95	69.87	---	---	---	---	76.93	75.89	71.36	71.30
13	69.93	69.79	69.89	69.81	---	---	---	---	76.16	75.04	71.31	71.21
14	69.80	69.70	69.84	69.80	---	---	---	---	75.25	74.40	71.22	71.06
15	69.73	69.65	69.91	69.80	---	---	---	---	74.56	74.04	71.09	71.06
16	69.67	69.53	69.91	69.78	---	---	---	---	74.19	73.61	71.54	71.08
17	69.60	69.52	70.02	69.88	---	---	---	---	73.70	73.34	73.31	71.54
18	69.62	69.53	70.16	70.02	77.28	76.31	83.38	82.14	73.62	73.33	73.62	72.68
19	---	---	70.77	70.15	76.37	75.68	82.27	81.60	73.34	72.88	72.68	72.07
20	---	---	71.69	70.77	75.81	75.43	81.73	80.48	72.88	72.74	72.07	71.87
21	---	---	---	---	75.58	75.37	---	---	72.77	72.52	71.90	71.85
22	---	---	---	---	75.77	75.50	---	---	72.57	72.41	71.90	71.81
23	---	---	---	---	76.37	75.75	88.77	84.07	72.52	72.34	71.86	71.74
24	---	---	---	---	76.18	75.17	88.77	85.27	72.41	72.25	71.76	71.65
25	---	---	---	---	75.45	74.40	88.87	85.07	72.39	72.20	71.68	71.61
26	---	---	---	---	74.45	73.93	91.47	88.77	72.22	72.12	71.63	71.55
27	---	---	---	---	81.40	74.14	91.57	90.07	72.16	72.04	71.56	71.43
28	---	---	---	---	80.87	79.53	90.07	86.97	72.08	71.99	71.44	71.36
29	70.08	69.73	---	---	81.98	80.55	87.67	86.97	---	---	71.37	71.31
30	70.26	70.07	---	---	88.03	81.98	87.77	87.21	---	---	71.33	71.25
31	70.18	70.10	---	---	91.03	87.96	87.23	86.33	---	---	71.31	71.27
MONTH	70.93	69.52	71.69	69.76	91.03	70.44	95.02	80.48	86.34	71.99	73.62	71.06

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	71.28	71.19	70.76	70.62	71.07	70.88	72.49	72.32	72.39	72.18	70.95	70.64
2	71.20	71.03	70.93	70.65	71.13	71.02	72.56	72.31	72.40	72.16	71.26	70.90
3	71.08	70.99	71.41	70.72	71.23	71.13	72.55	72.39	72.30	72.08	71.36	71.17
4	71.04	70.96	71.03	70.65	71.44	71.22	72.54	72.31	72.37	72.13	71.54	71.27
5	70.98	70.83	70.87	70.62	71.72	71.44	72.44	72.28	72.39	72.17	71.62	71.43
6	70.83	70.73	70.63	70.52	71.60	71.39	72.38	72.21	72.37	72.12	71.68	71.39
7	70.75	70.72	70.68	70.61	71.53	71.41	72.42	72.22	72.36	72.13	71.73	71.57
8	70.73	70.61	70.83	70.67	71.47	71.36	72.29	72.08	72.22	71.89	71.75	71.61
9	70.65	70.57	70.91	70.83	71.52	71.34	72.38	72.14	72.05	71.89	71.73	71.18
10	70.59	70.53	70.91	70.82	71.52	71.41	72.39	72.23	72.03	71.83	71.26	70.92
11	70.54	70.48	70.98	70.84	71.70	71.44	72.38	72.23	71.97	71.80	71.15	70.89
12	70.50	70.39	71.25	70.98	71.92	71.58	72.48	72.25	71.93	71.77	71.11	70.73
13	70.39	70.26	71.28	71.22	72.09	71.92	72.68	72.25	71.96	71.55	70.82	70.64
14	70.40	70.25	71.27	71.03	72.25	72.08	72.47	72.28	71.70	71.43	70.85	70.64
15	70.45	70.37	71.06	70.95	72.44	72.20	72.49	72.38	71.78	71.51	71.24	70.81
16	70.40	70.30	70.95	70.59	72.56	72.41	72.55	72.25	71.62	71.26	71.59	71.09
17	70.31	70.17	70.91	70.67	72.52	72.40	72.53	72.34	71.36	70.94	71.37	71.14
18	70.31	70.15	70.94	70.78	72.50	72.37	72.53	72.26	71.06	70.83	71.28	70.89
19	70.70	70.30	70.86	70.73	72.58	72.39	72.42	72.21	71.26	70.88	71.02	70.81
20	71.20	70.70	70.81	70.61	72.58	72.33	72.47	72.24	71.17	70.95	71.14	70.63
21	71.26	71.14	70.70	70.58	72.52	72.15	73.02	72.27	71.34	71.06	70.71	70.56
22	71.30	71.20	70.88	70.66	72.26	72.11	72.58	72.32	71.37	70.98	70.72	70.46
23	71.27	70.93	71.17	70.79	72.32	72.16	72.68	72.27	71.07	70.83	70.63	70.42
24	71.69	71.06	71.46	71.17	72.36	72.19	72.68	72.40	70.97	70.78	70.65	70.38
25	71.12	70.67	71.52	71.42	72.39	72.17	72.45	72.22	70.94	70.70	70.53	70.38
26	70.67	69.79	71.62	71.48	72.35	72.03	72.46	72.26	70.93	70.78	70.51	70.37
27	70.59	69.80	71.62	71.48	72.30	71.99	72.40	72.24	70.92	70.60	70.54	70.37
28	70.64	70.53	71.59	71.42	72.35	72.20	72.34	72.04	70.69	70.53	70.57	70.34
29	70.75	70.52	71.54	71.25	72.35	72.19	72.39	72.07	70.71	70.43	70.54	70.35
30	70.81	70.74	71.27	70.98	72.42	72.24	72.38	72.13	70.70	70.45	---	---
31	---	---	71.00	70.84	---	---	72.46	72.21	70.81	70.60	---	---
MONTH	71.69	69.79	71.62	70.52	72.58	70.88	73.02	72.04	72.40	70.43	71.75	70.34

11389500 SACRAMENTO RIVER AT COLUSA, CA

LOCATION.--Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, Colusa County, Hydrologic Unit 18020104, on right bank 60 ft downstream from highway bridge at Colusa and at mile 89.4 upstream from Sacramento.

DRAINAGE AREA.--12,090 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1921 to current year (prior to October 1940, low-water periods only).

REVISED RECORDS.--WSP 1345: 1952. WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.95 ft below sea level. Prior to December 1930, water-stage recorder in center fender pier 50 ft upstream from bridge at same datum.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, including Shasta Lake (station 11370000) since 1943, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. When discharge exceeds about 30,000 ft^3/s, flow begins over Colusa Weir, 2.5 mi upstream on left bank, into Butte Sink and Sutter Bypass. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-97), 51,800 ft^3/s, Mar. 4, 1983, gage height, 68.50 ft; maximum gage height, 69.20 ft, Feb. 18, 1942; minimum recorded, 820 ft^3/s, July 25, 26, 1931, gage height, 34.79 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8110	6430	7260	44800	38800	10300	8570	7300	8200	11400	10800	7240
2	8000	6240	7270	47100	37900	10200	8370	7180	8400	11600	10700	7640
3	7840	6220	7410	48100	36000	10300	8160	7690	8530	11600	10600	8220
4	7770	6070	7290	47200	33700	10300	8080	7280	8730	11600	10600	8450
5	7640	5990	7360	45100	32300	9970	7950	7090	9290	11400	10800	8800
6	7390	5930	12700	43700	32500	9650	7760	7370	9340	11400	10800	8890
7	7360	5950	13000	42100	32100	9480	7590	7340	9260	11300	10700	9080
8	7290	5950	11400	39800	31500	9300	7480	7510	9270	11200	10400	9230
9	7080	5860	17900	38800	30800	9070	7340	7600	9210	11100	10000	9080
10	6910	5880	27800	38400	28800	8940	7220	7410	9390	11400	9910	8300
11	6500	6080	38300	38000	26000	8840	7090	7530	9370	11500	9820	7990
12	6130	6050	38500	38000	23700	8790	7010	7800	9660	11400	9710	7920
13	5720	5940	38000	38200	21300	8700	6840	8230	10400	11500	9520	7570
14	5480	5810	37200	38300	18700	8530	6720	8250	10700	11500	9100	7470
15	5310	5800	35400	38200	16700	8300	6790	8060	11000	11600	9070	7730
16	5200	5820	33400	38100	15400	8410	6790	7840	11500	11500	8970	8510
17	5030	5950	31000	37400	14300	9330	6530	7480	11600	11500	8420	8510
18	5040	6210	27400	35500	13900	12800	6310	7790	11500	11500	7870	8350
19	5140	6680	24300	34200	13500	11900	6490	7600	11600	11400	7760	7970
20	5230	7870	22300	33300	12500	10500	7480	7480	11500	11400	7900	7880
21	5210	9460	21500	31900	12100	10000	8200	7270	11300	11500	8110	7410
22	5130	8590	21400	31900	11700	9990	8300	7330	10900	11600	8250	7270
23	5120	10700	22200	37800	e11400	9870	8170	7800	10900	11600	7850	7150
24	5210	10800	22800	40400	e11200	9680	8350	8360	11100	11800	7550	7050
25	5300	8770	20300	38600	e11000	9470	7920	8880	11000	11400	7480	6930
26	5440	7980	17800	41600	e10900	9340	6760	9140	11000	11300	7440	6900
27	5490	7540	22300	43600	10600	9190	5960	9330	10800	11200	7390	6860
28	5620	7440	33800	41900	10400	8990	6890	9320	11000	11000	7070	6770
29	5780	7420	34800	39800	---	8830	6890	9130	11200	10700	6960	6760
30	6370	7300	38200	40000	---	8710	7570	8700	11300	10800	6720	6680
31	6500	---	42500	39500	---	8660	---	8260	---	10800	7040	---
TOTAL	191340	208730	742790	1231300	599700	296340	221580	245350	308950	352500	275310	234610
MEAN	6172	6958	23960	39720	21420	9559	7386	7915	10300	11370	8881	7820
MAX	8110	10800	42500	48100	38800	12800	8570	9330	11600	11800	10800	9230
MIN	5030	5800	7260	31900	10400	8300	5960	7090	8200	10700	6720	6680
AC-FT	379500	414000	1473000	2442000	1190000	587800	439500	486700	612800	699200	546100	465300

e Estimated.

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6564	8786	13680	17710	19210	16840	12420	10440	8741	8532	8227	7175
MAX	12040	27000	38000	39720	41270	44450	31490	26680	18730	13150	11920	10510
(WY)	1958	1974	1984	1997	1983	1983	1982	1983	1983	1983	1983	1967
MIN	3219	3860	4141	5193	5147	5852	4966	5015	4852	5073	5081	4322
(WY)	1978	1993	1977	1991	1991	1977	1994	1947	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1946 - 1997	
ANNUAL TOTAL	5361150		4908500			
ANNUAL MEAN	14650		13450		11490	
HIGHEST ANNUAL MEAN					21790	1983
LOWEST ANNUAL MEAN					5671	1977
HIGHEST DAILY MEAN	42500	Dec 31	48100	Jan 3	51300	Mar 4 1983
LOWEST DAILY MEAN	5030	Oct 17	5030	Oct 17	2620	Oct 16 1977
ANNUAL SEVEN-DAY MINIMUM	5130	Oct 17	5130	Oct 17	2690	Oct 12 1977
INSTANTANEOUS PEAK FLOW			48400	Jan 3	51800	Mar 4 1983
INSTANTANEOUS PEAK STAGE			68.67	Jan 3	68.67	Jan 3 1997
ANNUAL RUNOFF (AC-FT)	10630000		9736000		8327000	
10 PERCENT EXCEEDS	30300		35400		23900	
50 PERCENT EXCEEDS	11100		9100		8250	
90 PERCENT EXCEEDS	6230		6280		5320	

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1959-66, 1973-80, 1996 to current year.
CHEMICAL DATA.--Water years 1959-66, 1996 to current year.
SPECIFIC CONDUCTANCE.--Water years 1995 to current year.
WATER TEMPERATURE.--Water years 1975, 1977-80, 1995 to current year.
SEDIMENT.--Water years 1973-80, 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1995 to current year.
WATER TEMPERATURE: October 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1995.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 201 microsiemens, Mar. 26, 1997; minimum recorded, 93 microsiemens, Jan. 3, 1997.
WATER TEMPERATURE: Maximum recorded, 21.0°C, May 16, 17, and 19, 1997; minimum recorded, 6.5°C, Jan. 20, 29, 1996.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 201 microsiemens, Mar. 26; minimum recorded, 93 microsiemens, Jan. 3.
WATER TEMPERATURE: Maximum recorded, 21.0°C, May 16, 17, and 19; minimum recorded, 8.0°C, Jan. 13-15, 23, 24.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
09...	1130	7080	133	7.7	18.0	762	9.4	100	11	6.5
NOV										
14...	1120	5820	144	7.8	13.5	763	10.3	99	12	6.0
DEC										
04...	1030	7340	150	8.1	10.0	769	11.1	97	13	6.8
16...	1330	33200	130	7.9	11.0	767	10.6	95	--	--
JAN										
04...	1300	47400	100	7.7	11.0	763	9.5	86	9.7	3.9
FEB										
12...	1200	23700	139	7.7	9.5	769	11.4	99	13	5.7
MAR										
13...	1100	8700	160	7.9	12.5	766	10.3	96	14	7.0
APR										
16...	1240	6840	158	8.1	17.5	764	10.2	107	14	7.0
MAY										
20...	1130	7350	132	8.0	19.5	760	9.4	103	11	5.5
JUN										
03...	1250	8420	121	7.9	18.0	758	9.4	100	10	5.5
JUL										
31...	1110	10800	120	7.9	18.0	766	9.5	100	10	4.9
AUG										
18...	1120	7870	127	8.0	18.5	763	9.4	100	12	5.7
SEP										
25...	1130	6930	148	7.9	18.5	755	8.9	96	12	5.7

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
09...	5.9	19	1.0	64	4.3	3.1	<.10	19	94	87
NOV										
14...	8.1	24	1.4	58	5.3	4.2	<.10	21	93	98
DEC										
04...	8.7	23	1.5	66	6.5	4.6	<.10	24	107	107
16...	--	--	--	55	4.8	3.4	<.10	--	92	--
JAN										
04...	4.0	17	1.1	42	4.2	1.9	<.10	15	68	67
FEB										
12...	6.1	19	1.1	58	6.3	3.0	<.10	20	96	94
MAR										
13...	7.4	20	1.2	60	8.3	4.2	<.10	21	104	108
APR										
16...	7.6	20	1.3	62	7.0	4.0	<.10	21	100	104
MAY										
20...	6.2	21	1.1	53	5.2	3.0	<.10	20	101	87
JUN										
03...	5.7	20	1.1	48	4.6	2.8	<.10	19	87	83
JUL										
31...	5.8	21	1.1	50	3.3	1.9	<.10	20	87	80
AUG										
18...	7.0	22	1.2	55	4.1	2.4	<.10	21	95	88
SEP										
25...	7.6	23	1.4	57	4.8	3.2	<.10	22	102	97

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
09...	.13	<.010	.150	.020	<.20	<.20	.070	.010	.020	6.0
NOV										
14...	.13	<.010	.160	<.015	<.20	<.20	.030	.020	.020	5.0
DEC										
04...	.15	<.010	.180	.020	<.20	<.20	.040	.010	.040	10
16...	--	<.010	.150	.030	<.20	<.20	.070	<.010	.020	--
JAN										
04...	.09	<.010	.130	<.015	.50	<.20	.250	.020	.020	17
FEB										
12...	.13	.010	.300	<.015	<.20	<.20	.090	<.010	.020	8.0
MAR										
13...	.14	<.010	.290	<.015	<.20	<.20	.010	<.010	.020	7.0
APR										
16...	.14	<.010	.140	<.015	.20	<.20	.040	.010	<.010	5.8
MAY										
20...	.14	.013	.084	<.015	<.20	<.20	.016	<.010	.014	8.1
JUN										
03...	.12	<.010	.094	<.015	<.20	<.20	.045	.010	.019	7.7
JUL										
31...	.12	<.010	.078	.027	<.20	<.20	.043	<.010	.020	6.3
AUG										
18...	.13	<.010	.084	<.015	<.20	<.20	.032	<.010	.013	6.7
SEP										
25...	.14	<.010	.115	<.015	<.20	<.20	.040	<.010	.020	6.7

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT 09...	<1.0	1	19	<1.0	<1.0	<1.0	<1.0	1.0	14	<1.0
NOV 14...	<1.0	2	20	<1.0	<1.0	1.0	<1.0	1.0	14	<1.0
DEC 04...	<1.0	2	20	<1.0	<1.0	1.0	<1.0	2.0	14	<1.0
16...	--	--	--	--	--	--	--	--	--	--
JAN 04...	<1.0	1	17	<1.0	<1.0	<1.0	<1.0	3.0	18	<1.0
FEB 12...	<1.0	1	22	<1.0	<1.0	<1.0	<1.0	2.0	10	<1.0
MAR 13...	<1.0	<1	23	<1.0	<1.0	2.0	<1.0	<1.0	5.0	<1.0
APR 16...	<1.0	2	21	<1.0	<1.0	<1.0	<1.0	1.8	9.0	<1.0
MAY 20...	<1.0	1	17	<1.0	<1.0	1.7	<1.0	1.6	3.6	<1.0
JUN 03...	<1.0	1	16	<1.0	<1.0	1.3	<1.0	1.1	7.9	<1.0
JUL 31...	<1.0	1	15	<1.0	<1.0	1.3	<1.0	<1.0	6.4	<1.0
AUG 18...	<1.0	1	17	<1.0	<1.0	<1.0	<1.0	2.5	4.0	<1.0
SEP 25...	<1.0	2	20	<1.0	<1.0	1.1	<1.0	1.1	6.8	<1.0

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT 09...	6.0	<1.0	1.0	<1	<1.0	1.0	<1.0	1.4	.30
NOV 14...	6.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.3	.20
DEC 04...	4.0	<1.0	1.0	<1	<1.0	1.0	<1.0	1.1	.40
16...	--	--	--	--	--	--	--	1.4	--
JAN 04...	4.0	<1.0	1.0	<1	<1.0	1.0	<1.0	1.2	.30
FEB 12...	18	<1.0	2.0	<1	<1.0	1.0	<1.0	1.4	.50
MAR 13...	14	<1.0	1.0	<1	<1.0	<1.0	<1.0	--	--
APR 16...	10	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.3	.60
MAY 20...	3.5	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.5	.40
JUN 03...	1.8	<1.0	1.4	<1	<1.0	1.3	<1.0	--	--
JUL 31...	2.2	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.1	<.20
AUG 18...	3.7	<1.0	<1.0	<1	<1.0	1.5	<1.0	1.2	.30
SEP 25...	3.3	<1.0	<1.0	<1	<1.0	<1.0	<1.0	6.4	.40

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
09...N	1130	7080	18.0	36	688
NOV					
14...N	1120	5820	13.5	46	723
DEC					
04...N	1030	7340	10.0	27	535
16...N	1330	33200	11.0	92	8250
JAN					
04...N	1300	47400	11.0	579	74100
FEB					
12...N	1200	23700	9.5	105	6720
MAR					
13...N	1100	8700	12.5	41	963
APR					
16...N	1240	6840	17.5	47	868
MAY					
20...N	1130	7350	19.5	36	714
JUN					
03...N	1250	8420	18.0	37	841
JUL					
31...N	1110	10800	18.0	33	962
AUG					
18...N	1120	7870	18.5	28	595
SEP					
25...N	1130	6930	18.5	29	543

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	155	149	153	151	---	---	102	98	133	131	189	189
2	161	155	156	153	---	---	98	94	136	132	189	189
3	166	161	157	156	---	---	95	93	137	135	189	188
4	171	166	158	156	---	---	105	94	141	137	189	188
5	176	171	157	156	---	---	112	105	144	141	188	187
6	179	176	158	156	---	---	115	112	143	139	189	187
7	180	166	158	155	---	---	114	112	139	136	190	188
8	166	148	156	155	---	---	113	112	137	135	192	189
9	148	133	156	155	---	---	114	111	137	135	193	148
10	133	128	157	---	---	---	113	113	138	137	152	149
11	130	128	---	---	---	---	113	111	---	---	150	121
12	138	129	---	---	---	---	113	111	---	---	---	---
13	146	138	---	---	131	129	113	112	---	---	---	---
14	152	146	---	---	130	127	114	112	---	---	---	---
15	155	151	---	---	131	128	115	113	---	---	---	---
16	158	153	---	---	131	130	116	115	---	---	---	---
17	160	155	---	---	132	130	119	116	---	---	147	143
18	160	157	---	---	131	130	124	119	---	---	168	144
19	159	157	---	---	132	130	125	123	---	---	177	168
20	158	153	---	---	132	131	124	122	---	---	181	177
21	156	154	---	---	131	130	125	124	---	---	180	162
22	158	155	---	---	130	127	125	121	---	---	173	167
23	160	158	---	---	128	124	121	105	---	---	174	162
24	161	159	---	---	126	122	115	104	186	184	178	169
25	159	154	---	---	130	126	123	115	186	185	198	178
26	154	151	---	---	130	129	121	110	187	186	201	156
27	152	150	---	---	131	109	110	107	189	187	158	148
28	152	151	---	---	109	97	120	110	189	188	148	141
29	153	151	---	---	116	108	129	120	---	---	---	---
30	152	148	---	---	116	109	130	127	---	---	---	---
31	151	148	---	---	109	102	131	130	---	---	---	---
MONTH	180	128	158	151	132	97	131	93	189	131	201	121

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	147	---	---	---	129	125	127	125	121	114	145	140
2	150	142	---	---	126	123	127	125	125	115	142	136
3	146	139	---	---	125	121	130	127	125	117	139	134
4	147	140	---	---	123	120	129	126	131	120	140	135
5	148	145	---	---	123	117	129	125	133	120	139	137
6	150	148	---	---	121	116	129	127	133	122	139	136
7	150	142	139	---	122	120	129	125	132	123	141	138
8	149	132	139	135	125	120	130	123	127	124	142	139
9	148	133	135	134	126	122	125	121	131	126	143	140
10	153	---	135	132	125	123	124	119	141	127	147	142
11	---	---	136	133	126	123	127	120	140	128	148	145
12	---	---	134	130	124	121	125	121	141	128	150	145
13	---	---	130	126	123	120	128	122	139	130	150	148
14	---	---	126	124	121	119	125	118	138	129	153	149
15	---	---	130	126	123	121	123	118	135	130	153	150
16	---	---	133	130	122	120	126	117	135	128	150	145
17	---	---	136	133	123	120	132	120	139	127	146	144
18	---	---	134	130	122	120	132	116	139	127	146	143
19	---	---	132	130	124	121	122	116	138	130	144	142
20	---	---	132	129	124	122	120	115	138	128	146	140
21	124	120	133	130	128	123	119	116	133	129	146	141
22	124	120	133	130	128	125	120	115	134	129	156	143
23	125	120	132	127	128	125	118	115	137	132	166	147
24	---	---	128	121	129	126	117	113	139	135	180	155
25	---	---	123	118	131	125	117	113	140	136	155	129
26	---	---	123	120	128	124	117	113	138	134	142	130
27	---	---	121	120	129	125	118	112	138	135	137	124
28	---	---	121	120	128	125	119	113	140	136	124	116
29	---	---	121	119	127	125	123	114	141	138	131	121
30	---	---	125	120	127	123	122	111	144	141	139	129
31	---	---	128	124	---	---	120	112	144	142	---	---
MONTH	153	120	139	118	131	116	132	111	144	114	180	116

11389500 SACRAMENTO RIVER AT COLUSA, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	17.5	14.0	13.0	---	---	12.5	11.5	10.0	9.5	11.5	11.0
2	18.5	17.5	14.0	13.5	---	---	12.5	12.5	10.0	9.5	12.0	11.0
3	18.5	17.5	14.0	14.0	---	---	12.5	11.5	9.5	9.0	12.0	11.5
4	18.5	17.5	14.0	14.0	---	---	11.5	10.0	9.5	9.0	12.0	11.5
5	18.5	18.0	14.0	13.0	---	---	10.0	9.0	9.5	9.0	12.0	11.0
6	18.5	18.0	13.0	12.5	---	---	9.0	8.5	9.5	9.0	12.0	11.5
7	---	---	13.0	12.5	---	---	9.0	8.5	9.0	9.0	12.5	11.5
8	---	---	13.0	12.5	---	---	9.0	9.0	9.0	9.0	13.0	12.0
9	---	---	13.5	13.0	---	---	9.5	9.0	9.5	9.0	13.5	12.5
10	18.5	17.5	14.0	13.5	---	---	9.5	9.5	9.5	9.0	14.0	13.0
11	18.0	17.5	---	---	---	---	9.5	9.5	---	---	---	---
12	18.0	17.5	---	---	---	---	9.5	9.5	---	---	---	---
13	18.0	17.5	---	---	12.0	12.0	9.5	8.0	---	---	---	---
14	18.0	17.0	---	---	12.0	11.0	8.0	8.0	---	---	---	---
15	17.5	17.0	---	---	11.0	10.5	8.5	8.0	---	---	---	---
16	17.0	15.5	---	---	11.0	10.5	9.0	8.5	---	---	---	---
17	15.5	15.0	---	---	11.0	10.5	9.5	9.0	---	---	---	---
18	15.5	14.5	---	---	10.5	10.5	9.5	9.5	---	---	13.5	13.0
19	15.0	14.0	---	---	10.5	10.0	9.5	9.5	---	---	13.5	13.5
20	14.0	13.0	---	---	10.0	9.5	9.5	9.5	---	---	15.0	13.5
21	13.5	13.0	---	---	9.5	9.5	9.5	9.5	---	---	15.5	14.5
22	13.5	13.0	---	---	9.5	9.5	9.5	9.0	---	---	15.5	15.0
23	14.0	13.5	---	---	9.5	9.5	9.0	8.0	---	---	16.5	15.0
24	14.5	13.5	---	---	9.5	9.5	8.5	8.0	11.5	11.0	16.5	15.5
25	14.0	13.5	---	---	10.0	9.5	9.0	8.5	11.5	11.0	16.5	15.5
26	13.5	12.5	---	---	10.0	9.5	9.5	8.5	12.0	11.0	---	---
27	12.5	12.0	---	---	10.0	9.5	10.0	9.5	12.5	11.5	16.5	16.0
28	12.5	12.0	---	---	9.5	9.0	10.0	10.0	12.0	11.5	16.0	15.0
29	12.5	12.5	---	---	10.5	9.5	10.0	10.0	---	---	---	---
30	12.5	12.0	---	---	11.0	10.5	10.0	9.5	---	---	---	---
31	13.5	12.5	---	---	11.5	11.0	9.5	9.5	---	---	---	---
MONTH	18.5	12.0	14.0	12.5	12.0	9.0	12.5	8.0	12.5	9.0	16.5	11.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	20.0	18.5	17.5	16.5	19.0	18.0	20.0	19.0
2	13.0	12.0	---	---	19.5	19.0	18.0	16.5	18.5	18.0	19.5	18.5
3	13.0	12.0	---	---	19.0	17.0	18.5	17.0	18.5	17.5	19.5	18.5
4	14.0	13.0	---	---	18.0	16.5	19.0	17.5	18.5	18.0	19.5	19.0
5	13.5	12.5	---	---	18.0	17.0	19.0	18.0	19.0	18.0	20.0	19.0
6	14.0	13.0	---	---	18.0	17.0	19.0	18.0	19.0	18.0	19.0	18.5
7	14.5	13.5	---	---	19.5	18.0	19.0	18.0	19.0	18.0	18.5	18.0
8	15.0	14.0	19.5	18.0	19.5	19.0	19.5	18.5	19.0	18.0	18.5	18.0
9	14.5	13.5	20.0	18.5	20.0	18.5	19.5	18.5	19.0	18.5	18.0	18.0
10	---	---	20.5	19.0	19.5	18.5	19.5	18.5	18.5	18.0	18.5	17.5
11	---	---	20.5	19.0	19.0	18.5	19.5	18.0	18.5	18.0	18.5	17.5
12	---	---	20.5	19.5	18.5	18.0	18.5	17.5	18.5	18.5	19.0	18.0
13	---	---	20.0	19.0	18.0	17.5	19.0	17.5	19.0	18.5	19.0	18.0
14	---	---	20.0	19.0	18.5	17.5	19.0	17.5	19.5	18.5	19.0	18.0
15	---	---	20.5	19.0	19.0	18.0	19.0	18.0	19.5	19.0	18.0	17.5
16	---	---	21.0	19.5	19.0	18.0	19.0	18.0	19.5	19.0	18.0	17.0
17	---	---	21.0	19.5	19.0	18.0	18.5	17.5	19.5	18.5	17.0	16.5
18	---	---	20.5	19.5	19.0	18.0	19.0	17.5	19.5	18.5	17.0	16.0
19	---	---	21.0	19.5	19.0	18.0	19.0	18.0	19.5	18.5	17.0	16.0
20	---	---	20.5	19.5	19.0	18.0	19.5	18.0	19.5	18.5	17.5	16.0
21	---	---	20.5	19.0	18.5	17.5	19.5	18.5	19.5	18.5	18.0	17.0
22	---	---	19.5	18.5	18.5	17.5	19.5	18.5	19.5	18.5	18.5	17.5
23	---	---	18.5	17.5	18.5	17.5	19.5	18.0	19.5	19.0	19.0	18.0
24	---	---	18.0	16.5	18.0	17.0	19.0	17.5	20.0	18.5	19.0	18.0
25	---	---	17.5	17.0	18.5	17.0	19.0	17.5	20.0	19.0	19.5	18.5
26	---	---	17.0	17.0	18.5	17.5	19.0	18.0	20.0	19.0	19.0	18.5
27	---	---	18.0	17.0	18.5	17.5	19.0	18.0	20.0	19.0	19.0	18.0
28	---	---	18.0	17.5	18.0	17.0	19.0	18.0	20.0	19.0	18.0	17.0
29	---	---	18.0	17.0	17.5	16.5	19.0	18.5	20.0	19.0	18.5	17.5
30	---	---	19.0	17.5	17.5	16.5	19.0	18.5	20.0	19.0	18.5	17.5
31	---	---	19.5	18.5	---	---	19.0	18.0	20.0	19.0	---	---
MONTH	15.0	12.0	21.0	16.5	20.0	16.5	19.5	16.5	20.0	17.5	20.0	16.0

11389720 BUTTE CREEK BELOW DIVERSION DAM, NEAR STIRLING CITY, CA

LOCATION.--Lat 39°58'53", long 121°35'15", unsurveyed, T.25 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 400 ft downstream from diversion dam, 0.1 mi upstream from Haw Creek, and 6.2 mi northwest of Stirling City.

DRAINAGE AREA.--61.3 mi^2.

PERIOD OF RECORD.--January to February 1986, June 1986 to current year (low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 2,840 ft above sea level, from topographic map.

REMARKS.--No records computed above 40 ft^3/s. Flow regulated by diversion dam 400 ft upstream. Most of the water is diverted at diversion dam to Butte Creek Canal and then to De Sabla Powerplant (station 11389750).

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	---	---	---	---	---	---	---	e27	e19	18
2	19	21	29	---	---	---	---	---	---	e27	e19	19
3	19	20	24	---	---	---	---	---	---	e22	e19	20
4	19	20	---	---	---	---	---	---	---	e21	e19	20
5	19	20	---	---	---	---	---	---	---	e20	e20	19
6	19	20	---	---	---	---	---	---	---	e20	e20	20
7	19	20	---	---	---	---	---	---	---	e33	e20	20
8	19	20	---	---	---	---	---	---	---	e20	e19	20
9	24	20	---	---	---	---	---	---	---	e20	e19	19
10	19	20	---	---	---	---	---	---	---	e21	e19	19
11	19	20	---	---	---	---	---	---	---	e27	e19	19
12	19	19	---	---	---	---	---	---	---	e33	e19	19
13	19	19	---	---	---	---	---	---	---	e33	e19	19
14	19	19	---	---	---	---	---	---	---	e33	e19	20
15	19	19	---	---	---	---	---	---	---	e27	18	33
16	19	19	---	---	---	---	---	---	---	e20	18	19
17	19	34	---	---	---	---	---	---	---	e20	18	19
18	19	---	---	---	---	---	---	---	---	e20	18	20
19	19	---	---	---	---	---	---	---	---	e20	18	19
20	19	---	---	---	---	---	---	---	---	e20	20	19
21	19	---	---	---	---	---	---	---	---	e19	19	19
22	19	---	---	---	---	---	---	---	---	e19	19	19
23	19	---	---	---	---	---	---	---	---	e20	19	19
24	19	---	---	---	---	---	---	---	---	e19	19	19
25	19	---	---	---	---	---	---	---	e16	e18	19	19
26	19	22	---	---	---	---	---	---	e24	e20	19	19
27	---	20	---	---	---	---	---	---	e21	e20	19	19
28	24	20	---	---	---	---	---	---	e27	e19	19	19
29	24	20	---	---	---	---	---	---	e22	e19	19	19
30	22	21	---	---	---	---	---	---	e24	e19	19	19
31	21	---	---	---	---	---	---	---	---	e19	19	---
TOTAL	---	---	---	---	---	---	---	---	---	695	588	590
MEAN	---	---	---	---	---	---	---	---	---	22.4	19.0	19.7
MAX	---	---	---	---	---	---	---	---	---	33	20	33
MIN	---	---	---	---	---	---	---	---	---	18	18	18
AC-FT	---	---	---	---	---	---	---	---	---	1380	1170	1170

e Estimated.

11389740 BUTTE CREEK BELOW FORKS OF BUTTE DIVERSION DAM, NEAR DE SABLA, CA

LOCATION.--Lat 39°54'05", long 121°37'24", in NW 1/4 NE 1/4 sec.34, T.24 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 30 ft downstream from diversion dam, 0.2 mi upstream from American Ravine, and 2.0 mi north of De Sabla.

DRAINAGE AREA.--96.4 mi^2.

PERIOD OF RECORD.--April 1992 to current year (low-flow records only).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 1,900 ft above sea level, from topographic map.

REMARKS.--No records computed above 60 ft^3/s. No record Dec. 31 to Mar. 6 due to flood damage. Flow regulated by Forks of Butte Diversion Dam 30 ft upstream. Water is diverted out of creek to Butte Canal 7.4 mi upstream by Pacific Gas and Electric Co. Water is diverted 30 ft upstream to Forks of Butte Powerplant (station 11389747).

COOPERATION.--Records were collected by Energy Growth Partnership I, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	38	49	---	---	---	48	47	47	53	34	35
2	33	36	51	---	---	---	48	48	47	42	34	35
3	33	36	48	---	---	---	48	48	48	39	34	35
4	33	36	53	---	---	---	48	48	48	42	34	35
5	33	35	---	---	---	---	48	48	47	41	34	35
6	33	35	---	---	---	---	48	47	48	41	34	35
7	32	35	48	---	---	---	48	48	47	40	34	35
8	32	34	---	---	---	---	---	47	47	40	34	35
9	38	34	---	---	---	59	48	53	48	39	34	35
10	33	34	---	---	---	59	48	47	48	42	34	35
11	33	34	---	---	---	59	48	48	47	50	34	35
12	33	34	---	---	---	48	48	47	47	49	35	35
13	33	34	---	---	---	47	48	48	47	49	34	35
14	33	34	---	---	---	47	48	47	47	49	34	35
15	32	34	---	---	---	47	48	47	47	48	34	33
16	32	35	---	---	---	---	48	47	47	43	34	30
17	32	51	---	---	---	---	48	47	47	39	34	29
18	35	48	48	---	---	---	---	48	47	39	34	31
19	37	---	47	---	---	51	---	47	47	39	35	30
20	34	---	48	---	---	48	---	47	47	38	35	29
21	33	48	47	---	---	48	---	47	47	38	35	29
22	33	---	51	---	---	48	---	47	47	35	35	29
23	33	58	47	---	---	48	---	48	47	35	35	28
24	33	47	47	---	---	48	58	47	48	35	35	28
25	36	49	47	---	---	48	47	47	41	35	35	27
26	34	54	---	---	---	48	48	47	36	35	35	27
27	36	45	---	---	---	48	48	47	35	35	35	27
28	37	43	---	---	---	---	48	47	37	35	35	27
29	50	42	---	---	---	48	47	47	42	35	35	27
30	46	41	---	---	---	48	48	47	48	35	35	27
31	39	---	---	---	---	48	---	47	---	35	35	---
TOTAL	1077	---	---	---	---	---	---	1472	1373	1250	1068	948
MEAN	34.7	---	---	---	---	---	---	47.5	45.8	40.3	34.5	31.6
MAX	50	---	---	---	---	---	---	53	48	53	35	35
MIN	32	---	---	---	---	---	---	47	35	35	34	27
AC-FT	2140	---	---	---	---	---	---	2920	2720	2480	2120	1880
a	8	2260	11450	0	0	10460	11430	7640	3690	4	0	0

a Diversion, in acre-feet, to Forks of Butte Powerplant, provided by Energy Growth Partnership I.

11389780 BUTTE CREEK BELOW CENTERVILLE DIVERSION DAM, NEAR PARADISE, CA

LOCATION.--Lat 39°52'01", long 121°37'58", in SW 1/4 NW 1/4 sec.10, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on left bank 400 ft downstream from Centerville diversion dam, 0.2 mi downstream from De Sabla Powerplant, and 6.8 mi north of Paradise.

DRAINAGE AREA.--101 mi^2.

PERIOD OF RECORD.--November 1985 to February 1986, June 1986 to current year (low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 1,130 ft above sea level, from topographic map.

REMARKS.--No records computed above 60 ft^3/s. Flow regulated by several reservoirs and diversions upstream. Most of the water is diverted at Centerville Diversion Dam to the Centerville Powerplant (station 11389775).

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	---	---	---	---	---	---	---	---	50	49	---
2	48	---	---	---	---	---	---	---	---	49	49	---
3	48	---	52	---	---	---	---	---	---	51	49	---
4	48	---	---	---	---	---	---	---	---	53	48	---
5	48	---	---	---	---	---	---	---	---	49	46	---
6	48	---	---	---	---	---	---	---	---	52	50	---
7	48	---	---	---	---	---	---	---	---	51	55	---
8	48	---	---	---	---	---	---	---	---	47	52	---
9	47	---	---	---	---	---	---	---	---	48	47	---
10	---	---	---	---	---	---	---	59	---	50	47	---
11	---	---	---	---	---	---	---	56	57	48	47	---
12	---	---	---	---	---	---	---	57	48	47	47	---
13	---	---	---	---	---	---	---	58	50	47	48	---
14	---	---	---	---	---	---	---	56	48	46	47	---
15	---	---	---	---	---	---	---	56	48	46	47	---
16	---	---	---	---	---	---	---	58	47	51	47	---
17	---	---	---	---	---	---	---	53	50	51	47	---
18	---	---	---	---	---	---	---	51	49	50	47	---
19	---	---	---	---	---	---	---	48	48	50	47	---
20	---	---	---	---	---	---	---	48	48	51	59	---
21	---	---	---	---	---	---	---	45	48	50	48	---
22	---	---	---	---	---	---	---	43	48	49	48	---
23	---	---	---	---	---	---	---	56	49	50	48	---
24	---	---	---	---	---	---	---	56	48	51	48	---
25	---	---	---	---	---	---	---	45	47	52	---	---
26	---	---	---	---	---	---	---	42	47	49	---	---
27	---	---	---	---	---	---	---	43	47	47	---	---
28	---	48	---	---	---	---	---	---	47	47	---	---
29	---	44	---	---	---	---	---	---	48	49	---	---
30	---	46	---	---	---	---	---	---	49	50	---	---
31	---	---	---	---	---	---	---	---	---	48	---	---
TOTAL	---	---	---	---	---	---	---	---	---	1529	---	---
MEAN	---	---	---	---	---	---	---	---	---	49.3	---	---
MAX	---	---	---	---	---	---	---	---	---	53	---	---
MIN	---	---	---	---	---	---	---	---	---	46	---	---
AC-FT	---	---	---	---	---	---	---	---	---	3030	---	---
a	3560	4130	5930	0	0	0	2570	6400	5170	6320	5770	1610

CAL YR 1996 a 82180
WTR YR 1997 a 41460

a Diversion, in acre-feet, to Centerville Powerplant, provided by Pacific Gas & Electric Co.

11389800 TOADTOWN CANAL ABOVE BUTTE CANAL, NEAR STIRLING CITY, CA

LOCATION.--Lat 39°53'09", long 121°36'35", in NE 1/4 NW 1/4 sec.2, T.23 N., R.3 E., Butte County, Hydrologic Unit 18020120, on right bank 600 ft upstream from Butte Canal and 4.6 mi west of Stirling City.

PERIOD OF RECORD.--October 1986 to current year. Monthly discharges for water years 1931-86 are published as a line item to Butte Creek near Chico (station 11390000).

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 2,790 ft above sea level, from topographic map.

REMARKS.--Canal diverts from right bank of West Branch Feather River, in sec.16, T.24 N., R.4 E. at Hendricks Diversion Dam to Hendricks Canal, flows through tunnel down Long Ravine to Toadtown Canal, and discharges into Butte Canal. Butte Canal flows to De Sabla Powerplant (station 11389750) on Butte Creek.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 127 ft^3/s, Feb. 12, May 20, 1995, no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	37	92	51	15	10	5.3	3.6	2.0	64	77	36
2	67	37	79	22	14	12	5.3	3.6	1.8	62	76	35
3	71	36	68	17	14	10	4.1	3.4	2.1	58	71	32
4	71	35	75	13	15	10	1.7	3.3	4.7	56	70	33
5	70	35	108	9.9	15	9.7	.24	3.2	3.2	55	71	33
6	69	34	94	8.2	14	9.4	.23	1.8	29	54	94	32
7	69	33	85	11	13	9.0	.17	1.2	7.6	54	104	31
8	71	33	91	12	13	6.5	.18	2.6	11	59	90	32
9	70	33	104	11	12	3.4	.43	1.7	58	59	79	31
10	48	33	93	9.9	13	2.5	.87	.72	67	59	77	31
11	31	33	72	8.9	13	2.5	.32	.82	67	59	77	32
12	32	33	93	8.1	13	2.4	.32	.17	67	58	77	32
13	32	33	105	11	12	2.5	.32	.13	67	57	76	31
14	31	33	103	14	12	2.7	.26	.11	65	55	76	32
15	31	33	102	14	12	2.7	.28	.11	63	54	75	43
16	31	33	107	13	12	4.5	.24	.11	60	57	75	34
17	31	63	112	13	11	4.3	.24	.11	58	57	75	32
18	37	76	98	12	11	3.1	.74	.11	57	59	75	34
19	39	72	115	12	12	2.6	5.1	.11	55	64	74	32
20	34	68	106	13	13	2.5	5.4	.11	54	61	85	31
21	33	74	89	15	12	2.2	5.7	.08	53	60	78	30
22	32	92	90	19	12	2.5	4.7	.06	53	64	76	30
23	33	93	97	14	11	2.5	5.0	.06	52	63	75	30
24	36	94	109	11	11	4.7	4.4	.13	51	63	74	29
25	41	89	114	16	11	4.5	4.1	.11	50	57	52	29
26	36	79	106	23	11	2.8	3.9	.11	49	49	33	29
27	34	70	95	19	11	5.5	4.0	.11	47	60	33	29
28	34	66	91	18	11	4.0	4.0	.11	49	77	37	28
29	47	61	55	15	---	.63	3.9	.11	58	75	37	29
30	46	58	68	15	---	.66	3.9	.11	63	73	37	29
31	39	---	29	16	---	2.9	---	1.5	---	73	36	---
TOTAL	1413	1599	2845	465.0	349	145.19	75.34	29.50	1324.4	1875	2142	951
MEAN	45.6	53.3	91.8	15.0	12.5	4.68	2.51	.95	44.1	60.5	69.1	31.7
MAX	71	94	115	51	15	12	5.7	3.6	67	77	104	43
MIN	31	33	29	8.1	11	.63	.17	.06	1.8	49	33	28
AC-FT	2800	3170	5640	922	692	288	149	59	2630	3720	4250	1890
a	5560	6180	8720	434	392	77	0	0	3020	6810	6770	4030

a Discharge, in acre-feet at De Sabla Powreplant, provided by Pacific Gas & Electric Co.

11389800 TOADTOWN CANAL ABOVE BUTTE CANAL, NEAR STIRLING CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.4	34.2	49.4	61.4	75.1	95.6	104	97.4	75.7	63.1	46.6	24.8
MAX	57.8	53.3	91.8	95.8	118	117	119	118	119	114	99.7	71.8
(WY)	1987	1997	1997	1996	1995	1993	1992	1993	1995	1995	1995	1996
MIN	7.72	17.1	18.9	15.0	12.5	4.68	2.51	.95	39.2	41.3	12.0	2.24
(WY)	1989	1992	1991	1997	1997	1997	1997	1997	1987	1996	1991	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1987 - 1997	
ANNUAL TOTAL	29899.52		13213.43			
ANNUAL MEAN	81.7		36.2		63.1	
HIGHEST ANNUAL MEAN					83.8	1993
LOWEST ANNUAL MEAN					36.2	1997
HIGHEST DAILY MEAN	122	Feb 10	115	Dec 19	127	Feb 12 1995
LOWEST DAILY MEAN	.17	Aug 7	.06	May 22	.00	Sep 9 1987
ANNUAL SEVEN-DAY MINIMUM	.22	Aug 3	.09	May 17	.00	Sep 9 1987
ANNUAL RUNOFF (AC-FT)	59310		26210		45700	
ANNUAL DISCHARGE (AC-FT) a	93710		41990			
10 PERCENT EXCEEDS	119		77		116	
50 PERCENT EXCEEDS	92		32		58	
90 PERCENT EXCEEDS	31		.85		10	

a Discharge, in acre-feet at De Sabla Powreplant, provided by Pacific Gas & Electric Co.

11390000 BUTTE CREEK NEAR CHICO, CA

LOCATION.--Lat 39°43'34", long 121°42'28", in NW 1/4 NW 1/4 sec.36, T.22 N., R.2 E., Butte County, Hydrologic Unit 18020105, on right bank 0.7 mi downstream from Little Butte Creek and 7.5 mi east of Chico.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
CHEMICAL DATA: Water years 1953-79.
WATER TEMPERATURE: Water years 1962-79.

REVISED RECORDS.--WSP 1445: 1953(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 320 ft above sea level, from topographic map. Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mi upstream at different datum. Aug. 13, 1944, to June 5, 1986, at datum 3.00 ft higher.

REMARKS.--Records good. Flow slightly regulated by storage in Magalia Reservoir, usable capacity, 2,640 acre-ft, and since 1957 by Paradise Reservoir, usable capacity, 11,500 acre-ft. Diversions upstream from station for irrigation and domestic use of about 7,000 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal (11389800).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,600 ft^3/s, Jan. 1, 1997, gage height, 15.06 ft, in gage well, 15.7 ft from floodmarks, on basis of slope-area measurement of peak flow; maximum gage height, 17.52 ft, Feb. 17, 1986, present datum; minimum discharge, 10 ft^3/s, Nov. 29, 1952.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0800	5,270	6.78	Jan. 26	0330	5,860	5.25
Jan. 1	0845	35,600	15.06				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	133	246	e26600	1350	342	288	279	175	181	157	123
2	154	129	236	e11200	1190	445	282	268	175	175	154	123
3	157	127	210	e5040	1060	e405	279	260	175	169	154	124
4	157	126	209	e3420	971	e357	276	252	200	169	153	121
5	155	124	1060	e2410	880	346	272	243	183	162	150	122
6	152	121	526	e1790	801	328	269	238	173	155	155	121
7	151	119	399	e1440	752	324	268	230	170	158	164	120
8	153	119	550	1230	719	310	263	225	168	158	163	120
9	151	119	1360	1060	681	300	268	218	193	158	155	120
10	135	120	3630	928	653	291	263	214	204	162	153	120
11	107	119	1730	842	628	292	260	208	195	160	151	120
12	108	117	1550	782	607	286	258	202	194	158	154	120
13	109	117	1480	713	580	283	257	201	195	158	155	120
14	109	118	1010	656	559	281	259	201	193	157	154	122
15	107	119	747	629	549	280	257	197	193	154	154	136
16	107	123	611	e600	537	312	256	196	186	155	152	124
17	108	216	538	e560	564	383	255	191	183	157	150	121
18	119	365	465	e540	540	340	264	191	179	152	150	126
19	147	505	447	e530	512	320	379	191	173	152	148	123
20	121	550	420	e570	501	311	329	188	172	154	164	120
21	116	297	430	839	e490	309	350	188	172	154	161	119
22	114	496	504	2530	e460	309	331	186	172	154	152	118
23	117	482	476	2260	e430	308	331	196	171	154	150	118
24	121	309	445	1380	e380	304	314	203	169	154	150	117
25	144	265	423	3520	370	301	299	192	167	154	142	116
26	131	240	1050	4950	368	299	290	188	161	158	127	119
27	122	215	2280	3230	366	300	286	184	161	160	127	119
28	119	202	2250	2640	356	292	284	179	158	158	127	116
29	185	192	3870	2140	---	297	282	180	165	158	130	116
30	201	184	8120	1740	---	290	279	179	171	160	130	113
31	149	---	e18800	1500	---	299	---	177	---	158	125	---
TOTAL	4180	6468	56072	88269	17854	9844	8548	6445	5346	4926	4611	3617
MEAN	135	216	1809	2847	638	318	285	208	178	159	149	121
MAX	201	550	18800	26600	1350	445	379	279	204	181	164	136
MIN	107	117	209	530	356	280	255	177	158	152	125	113
AC-FT	8290	12830	111200	175100	35410	19530	16950	12780	10600	9770	9150	7170

e Estimated.

11390000 BUTTE CREEK NEAR CHICO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	138	224	463	691	788	761	679	498	280	163	131	118
MAX	775	1269	2061	2847	2925	2601	1848	1314	667	321	223	175
(WY)	1963	1974	1956	1997	1986	1995	1982	1995	1983	1983	1975	1967
MIN	65.8	77.8	89.5	91.0	114	123	114	134	79.4	54.4	46.1	51.9
(WY)	1992	1992	1991	1991	1977	1977	1977	1977	1977	1977	1931	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1931 - 1997	
ANNUAL TOTAL	223566		216180			
ANNUAL MEAN	611		592		409	
HIGHEST ANNUAL MEAN					834	1995
LOWEST ANNUAL MEAN					94.0	1977
HIGHEST DAILY MEAN	18800	Dec 31	26600	Jan 1	26600	Jan 1 1997
LOWEST DAILY MEAN	92	Aug 9	107	Oct 11	44	Aug 23 1931
ANNUAL SEVEN-DAY MINIMUM	95	Aug 4	108	Oct 11	44	Aug 23 1931
INSTANTANEOUS PEAK FLOW			35600	Jan 1	35600	Jan 1 1997
INSTANTANEOUS PEAK STAGE			15.06	Jan 1	17.52	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	443400		428800		296300	
10 PERCENT EXCEEDS	1090		945		842	
50 PERCENT EXCEEDS	340		196		206	
90 PERCENT EXCEEDS	112		120		100	

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA

LOCATION.--Lat 39°00'36", long 121°49'25", in NW 1/4 NE 1/4 sec.2, T.13 N., R.1 E., Colusa County, Hydrologic Unit 18020104, on right bank 1,200 ft downstream from Wilkins Slough, 5.8 mi southeast of Grimes, and at mile 62.9 upstream from Sacramento.

DRAINAGE AREA.--12,926 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1931 to current year (prior to October 1938, low-water periods only). Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.00 ft below sea level.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas. When discharge exceeds about 23,000 ft^3/s, flow begins over Tisdale Weir, 1.0 mi upstream on left bank, into Sutter Bypass. Records tabulated below do not include flow over Tisdale Weir. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1939-97), 32,700 ft^3/s, Feb. 20, 1986, gage height, 52.50 ft; maximum gage height, 52.75 ft, Mar. 1, 1940; minimum daily, 645 ft^3/s, Aug. 9, 1939.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7650	5830	6770	28200	26500	10400	8250	5360	6290	9680	9090	7030
2	7570	5650	6670	e29400	26200	10300	8130	5100	6420	9930	9030	7320
3	7410	5500	6710	e30000	25700	10200	7830	5390	6610	10000	9020	7990
4	7300	5450	6660	e31000	25100	10400	7610	5460	6950	10100	9000	8380
5	7230	5390	6700	29500	24700	10000	7680	5130	7410	9820	9240	8690
6	6990	5350	9680	28600	24600	9550	7270	4990	7990	9700	9340	8870
7	6910	5370	13400	28400	24600	9330	6930	4950	7810	9570	9230	9020
8	6850	5370	11600	28000	24400	9100	6740	5060	7770	9380	9070	9200
9	6640	5360	14700	27500	24300	8840	6610	5220	7680	9140	8650	9240
10	6470	5310	21200	27200	23900	8660	6540	5420	7740	9270	8500	8550
11	6190	5500	25600	26900	23200	8450	6360	5580	7630	9530	8480	7990
12	5810	5520	26100	26800	22500	8330	6140	5870	7850	9390	8440	7870
13	5440	5440	26100	26700	21700	8150	5950	6400	8330	9480	8360	7560
14	5120	5270	26000	26700	20200	7970	5740	6640	9040	9500	8030	7340
15	4880	5240	25600	26600	18100	7760	5710	6440	9480	9670	7840	7420
16	4730	5290	25100	26600	16700	7710	5780	6120	9930	9650	7900	7990
17	4500	5420	24500	26500	15500	8540	5610	5630	10200	9570	7460	8400
18	4430	5640	23600	26100	14700	11600	5140	5960	10100	9720	6920	8300
19	4480	5960	22800	25700	14400	12700	5050	5900	10000	9650	6590	7940
20	4600	6870	21900	25500	13400	10900	5720	5550	9910	9500	6830	7740
21	4650	8610	21300	25100	12800	10100	6940	5280	9710	9660	7080	7410
22	4570	9010	20900	25000	12200	9890	7120	5260	9240	9800	7470	7160
23	4520	9230	21300	26200	11800	9860	7120	5690	9180	9770	7300	7010
24	4540	11400	22000	27200	11500	9810	6870	6540	9320	9980	7040	6910
25	4630	9400	20800	27000	11400	9500	7080	7350	9300	9900	7010	6760
26	4710	8060	18500	27500	11200	9250	5740	7680	9290	9550	7080	6670
27	4780	7400	18800	28100	10900	8960	4940	7880	9140	9480	7140	6630
28	4890	7110	24600	27700	10600	8710	4910	7810	9140	9350	6950	6560
29	5030	7040	25100	27100	---	8670	4910	7660	9390	8990	6800	6530
30	5350	6880	25800	26900	---	8380	5040	7250	9560	8990	6590	6460
31	5780	---	27100	26800	---	8270	---	6660	---	8950	6730	---
TOTAL	174650	194870	597590	846500	522800	290290	191460	187230	258410	296670	244210	230940
MEAN	5634	6496	19280	27310	18670	9364	6382	6040	8614	9570	7878	7698
MAX	7650	11400	27100	31000	26500	12700	8250	7880	10200	10100	9340	9240
MIN	4430	5240	6660	25000	10600	7710	4910	4950	6290	8950	6590	6460
AC-FT	346400	386500	1185000	1679000	1037000	575800	379800	371400	512600	588400	484400	458100

e Estimated.

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6581	8512	12330	15000	16490	15140	11300	9251	7631	7292	7246	7186
MAX	11800	20510	27430	27310	28440	29490	24920	23110	17710	11980	10810	10620
(WY)	1958	1974	1984	1997	1983	1983	1982	1983	1983	1983	1983	1967
MIN	3330	3839	4103	5281	5013	5152	4201	3397	3451	3784	4086	4065
(WY)	1978	1993	1977	1991	1991	1977	1994	1992	1992	1992	1947	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1946 - 1997	
ANNUAL TOTAL	4702490		4035620			
ANNUAL MEAN	12850		11060		10300	
HIGHEST ANNUAL MEAN					17980	1983
LOWEST ANNUAL MEAN					5109	1977
HIGHEST DAILY MEAN	28600	Feb 6	31000	Jan 4	32600	Feb 20 1986
LOWEST DAILY MEAN	4430	Oct 18	4430	Oct 18	2720	May 7 1992
ANNUAL SEVEN-DAY MINIMUM	4540	Oct 17	4540	Oct 17	2880	Oct 12 1977
INSTANTANEOUS PEAK FLOW			31600	Jan 4	32700	Feb 20 1986
INSTANTANEOUS PEAK STAGE			52.68	Jan 4	52.68	Jan 4 1997
ANNUAL RUNOFF (AC-FT)	9327000		8005000		7463000	
10 PERCENT EXCEEDS	25100		25600		21900	
50 PERCENT EXCEEDS	10200		8380		7940	
90 PERCENT EXCEEDS	5740		5360		5010	

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1967 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1966 to current year.

INSTRUMENTATION.--Temperature recorder since October 1966.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 25.5°C, Sept. 6-8, 1977, June 3-5, 1992; minimum recorded, 3.5°C, Dec. 23-25, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 21.0°C, May 18, 19; minimum recorded, 6.0°C, Jan. 25.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	18.5	14.0	13.0	11.5	11.0	10.5	9.5	10.0	9.0	11.5	11.5
2	18.5	18.0	14.0	13.5	11.0	11.0	12.5	10.5	10.0	9.5	11.5	11.5
3	18.5	18.0	14.0	13.5	11.0	10.0	13.0	12.5	10.0	9.0	11.5	11.0
4	18.5	18.0	14.0	13.5	10.5	10.5	12.5	11.5	9.5	8.0	12.0	11.5
5	19.0	18.0	14.0	13.5	10.5	10.5	11.5	10.5	10.0	9.5	11.5	11.5
6	19.0	18.0	13.5	13.0	11.0	10.5	10.5	9.5	10.0	9.5	12.0	11.5
7	19.0	18.5	13.0	12.5	11.0	10.5	9.5	9.5	9.5	9.5	12.0	11.5
8	19.0	18.5	13.5	12.5	11.0	10.5	10.0	9.5	9.5	9.5	12.5	12.0
9	19.0	18.5	13.5	13.0	11.5	11.0	10.0	9.5	9.5	9.5	13.0	12.5
10	19.0	18.0	13.5	13.0	12.0	11.5	10.0	9.5	9.5	9.5	13.5	13.0
11	18.5	18.0	14.0	13.5	12.0	11.5	10.0	10.0	10.0	9.5	14.0	13.5
12	18.5	18.0	14.0	13.5	12.0	11.5	10.0	9.5	10.0	10.0	14.0	13.5
13	18.5	18.0	14.5	14.0	12.5	12.0	10.0	9.5	10.5	10.0	14.0	13.5
14	18.5	17.5	14.5	14.0	12.0	11.5	9.5	8.5	10.5	10.0	13.5	13.0
15	18.0	17.5	14.0	13.5	11.5	11.0	9.0	8.5	11.0	10.5	14.0	13.0
16	17.5	16.0	13.5	13.0	11.0	11.0	9.5	9.0	11.5	10.5	13.5	13.0
17	16.0	15.5	13.0	12.5	11.0	11.0	10.0	9.5	11.5	11.0	13.0	12.5
18	15.5	15.0	13.0	12.5	11.0	11.0	10.0	10.0	12.0	11.0	13.5	13.0
19	15.0	14.5	13.5	13.0	11.0	10.5	10.0	10.0	12.0	11.5	13.5	13.0
20	14.5	13.5	14.0	13.5	10.5	10.5	10.0	9.5	12.0	11.5	14.5	13.5
21	13.5	13.0	14.0	14.0	10.5	10.0	10.0	9.5	11.5	11.0	15.0	14.5
22	13.5	13.0	14.0	14.0	10.0	9.5	9.5	9.0	11.5	11.0	15.5	15.0
23	14.0	13.0	14.0	14.0	10.0	10.0	9.5	9.0	11.5	11.0	16.0	15.0
24	14.0	14.0	14.0	13.5	10.0	10.0	9.0	8.5	11.5	11.0	16.5	16.0
25	14.0	13.5	13.5	13.0	10.0	10.0	8.5	6.0	11.5	11.0	16.5	16.0
26	13.5	13.0	13.0	12.5	10.0	10.0	9.0	7.5	11.5	11.0	17.0	16.5
27	13.0	12.5	12.5	12.0	10.0	9.0	10.0	8.5	12.0	11.5	17.0	16.5
28	12.5	12.5	12.0	12.0	10.0	9.0	10.5	9.5	12.0	11.5	16.5	16.0
29	12.5	12.5	12.0	11.5	10.0	9.5	10.5	10.0	---	---	16.0	15.5
30	13.0	12.5	11.5	11.0	10.0	9.0	10.5	9.0	---	---	15.5	15.0
31	13.5	12.5	---	---	10.0	9.5	10.0	9.0	---	---	15.5	14.5
MONTH	19.0	12.5	14.5	11.0	12.5	9.0	13.0	6.0	12.0	8.0	17.0	11.0

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.0	14.0	18.0	17.0	20.0	19.5	18.5	17.0	19.5	18.0	20.5	20.0
2	14.0	13.0	17.5	16.5	20.0	19.5	18.5	17.0	19.5	18.0	20.5	19.5
3	13.5	13.0	17.0	16.5	20.0	19.0	19.0	17.5	19.5	18.0	20.0	19.5
4	14.5	13.0	17.0	16.5	19.0	18.0	19.5	18.0	19.5	18.0	20.0	19.5
5	14.0	13.5	18.0	17.0	18.5	18.0	20.0	18.5	20.0	18.0	20.5	19.5
6	14.5	13.5	18.5	17.5	19.0	18.0	20.0	18.5	19.5	18.0	20.0	19.5
7	15.0	14.0	19.0	18.5	19.5	18.5	20.5	19.0	20.0	18.0	19.5	19.0
8	15.5	14.5	19.5	18.5	20.0	19.5	20.5	19.0	20.0	18.0	19.5	18.5
9	15.5	14.5	19.5	19.0	20.5	20.0	20.5	19.0	19.5	18.5	19.0	18.5
10	15.0	14.5	20.0	19.5	20.5	19.5	20.5	18.0	19.5	18.5	19.0	18.0
11	15.0	14.5	20.0	19.5	20.0	19.5	20.0	19.0	19.5	18.0	19.0	18.5
12	15.5	14.5	20.0	19.5	19.5	19.0	19.5	18.0	19.5	18.5	19.0	18.5
13	16.5	15.0	20.0	20.0	19.5	18.5	19.5	18.0	20.0	18.5	19.5	18.5
14	17.0	15.5	20.0	19.5	19.0	18.5	19.5	18.5	20.0	18.5	19.0	19.0
15	17.5	16.5	20.0	19.5	19.5	18.5	19.5	18.5	20.0	19.0	19.0	18.0
16	18.0	17.0	20.0	20.0	20.0	17.0	19.5	18.5	20.0	19.0	18.5	18.0
17	19.0	18.0	20.5	20.0	20.0	19.0	19.5	18.0	20.0	19.0	18.0	17.5
18	18.5	18.0	21.0	20.5	20.0	19.0	19.5	18.0	19.5	19.0	17.5	17.0
19	18.0	17.0	21.0	20.5	20.0	19.0	20.0	18.0	19.5	19.5	17.5	16.5
20	17.5	16.5	20.5	20.5	19.5	19.0	20.0	18.5	19.5	19.5	17.5	16.5
21	17.5	17.0	20.5	20.0	19.5	18.5	20.0	18.5	20.0	19.5	18.0	17.0
22	17.5	17.0	20.0	19.5	19.5	18.5	20.5	19.0	20.0	19.5	18.5	17.5
23	17.0	16.5	19.5	18.5	19.5	18.0	20.0	19.0	20.0	19.5	19.0	18.0
24	16.5	16.0	18.5	18.0	19.0	18.0	19.5	18.5	20.0	19.5	19.0	18.5
25	16.5	16.0	18.5	18.0	19.5	18.0	19.5	18.0	20.5	19.5	19.5	18.5
26	17.0	16.0	18.5	17.5	19.5	18.0	20.0	18.0	20.5	20.0	19.5	18.5
27	18.5	17.0	18.5	17.5	19.5	18.0	19.5	18.5	20.5	20.0	19.0	18.5
28	18.5	18.0	18.5	18.0	19.0	18.0	19.5	18.0	20.5	19.5	18.5	17.5
29	18.5	18.0	19.0	18.5	18.5	17.5	20.0	18.5	20.5	20.0	18.5	17.5
30	18.0	17.5	19.0	18.5	18.5	17.0	20.0	18.5	20.5	20.0	18.5	18.0
31	---	---	19.5	19.0	---	---	19.5	18.0	20.5	20.0	---	---
MONTH	19.0	13.0	21.0	16.5	20.5	17.0	20.5	17.0	20.5	18.0	20.5	16.5

11390890 COLUSA BASIN DRAIN AT ROAD 99E, NEAR KNIGHTS LANDING, CA

LOCATION.--Lat 38°48' 45", long 121°46'23", in NW 1/4 SE 1/4, sec.8, T.11 N., R.2 E., Yolo County, Hydrologic Unit 18020104, on downstream side of bridge over "Ridgecut" at the intersection of Road 99E and Road 108, and 3.2 mi west of Knights Landing.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.-- Water years 1996 to current year.
CHEMICAL DATA.--Water years1996 to current year.
SPECIFIC CONDUCTANCE.--Water years 1995 to current year.
WATER TEMPERATURE.--Water years 1995 to current year.
SEDIMENT DATA.--Water years 1996 to current year.

PERIOD OF DAILY RECORD.--
WATER STAGE: Water year 1996.
SPECIFIC CONDUCTANCE: October 1995 to current year.
WATER TEMPERATURE: October 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1995.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,060 microsiemens, Jan. 16, 1996; minimum recorded, 104 microsiemens, Jan. 4, 1997.
WATER TEMPERATURE: Maximum recorded, 30.0°C, June 9, July 30, 31, 1996; minimum recorded, 3.5°C, Jan. 14, 1997.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 958 microsiemens, Mar. 9, 10; minimum recorded, 104 microsiemens, Jan. 4.
WATER TEMPERATURE: Maximum recorded, 27.5°C, May 19; minimum recorded, 3.5°C, Jan. 14.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
18...	0950	--	664	8.3	15.0	760	9.8	97	34	26
NOV										
07...	1330	586	576	7.9	12.5	770	7.6	71	33	24
DEC										
03...	1000	570	613	8.0	9.0	768	9.2	79	33	25
JAN										
14...	1130	2360	600	8.2	3.5	766	11.6	--	32	22
FEB										
18...	1130	559	713	8.1	11.5	766	9.0	82	37	25
MAR										
18...	1030	1180	626	8.3	14.0	771	8.2	78	35	23
APR										
09...	1100	497	629	8.2	15.0	764	9.2	91	34	25
24...	0940	192	517	8.2	18.0	762	8.4	89	26	19
MAY										
09...	0900	73	583	8.6	21.0	762	8.0	90	29	21
23...	1030	--	640	8.0	22.0	761	6.4	74	32	23
JUN										
06...	1110	--	712	8.1	23.0	756	6.0	71	36	27
17...	1000	127	712	8.3	25.0	761	9.2	112	35	27
JUL										
10...	0940	400	714	7.9	28.0	758	5.2	67	35	27
28...	1100	506	647	7.8	27.0	762	5.0	63	34	27
AUG										
26...	1100	1670	580	7.8	23.0	762	5.5	64	32	23
SEP										
18...	1000	553	551	8.0	20.0	758	6.7	74	34	22

11390890 COLUSA BASIN DRAIN AT ROAD 99E, NEAR KNIGHTS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
18...	70	44	2.7	170	80	32	.30	17	424	399
NOV										
07...	56	39	5.8	130	62	24	.30	25	360	355
DEC										
03...	59	40	3.7	180	67	27	.40	21	379	370
JAN										
14...	62	44	3.3	180	84	30	.40	18	386	366
FEB										
18...	72	44	2.8	210	100	37	.40	15	436	423
MAR										
18...	61	42	2.4	160	93	34	.30	15	357	376
APR										
09...	62	41	2.6	160	75	31	.30	15	304	375
24...	51	43	2.3	140	57	26	.31	17	307	304
MAY										
09...	63	46	2.3	150	62	28	.37	17	314	327
23...	69	46	2.2	150	87	32	.39	19	394	381
JUN										
06...	74	44	2.0	200	92	37	.40	19	447	420
17...	79	46	2.1	190	90	41	.38	18	404	425
JUL										
10...	75	45	1.8	230	78	33	.40	21	438	395
28...	66	42	1.2	220	59	28	.37	24	403	385
AUG										
26...	51	39	3.3	190	33	23	.37	24	342	323
SEP										
18...	53	39	2.6	180	52	25	.32	23	352	338

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
18...	.58	.030	.080	.020	.70	.40	.180	.080	.090	6.0
NOV										
07...	.49	.030	.170	.080	.90	.60	.270	.170	.160	5.0
DEC										
03...	.52	.020	.250	.110	.80	.50	.260	.120	.120	4.0
JAN										
14...	.52	.020	.400	.040	.80	.60	.290	.140	.130	4.0
FEB										
18...	.59	.030	.660	.040	.60	.40	.120	.080	.080	5.0
MAR										
18...	.49	.060	1.50	.080	1.1	.40	.350	.110	.110	4.0
APR										
09...	.41	.030	1.00	.050	.60	.30	.250	.120	.130	5.0
24...	.42	.046	.931	.103	.82	.34	.256	.126	.102	--
MAY										
09...	.43	--	--	--	--	--	--	--	--	--
23...	.54	.039	.487	.033	.95	.41	.270	.097	.100	4.4
JUN										
06...	.61	--	--	--	--	--	--	--	--	--
17...	.55	.023	.187	.021	.86	.47	.147	.020	.029	4.7
JUL										
10...	.60	--	--	--	--	--	--	--	--	4.5
28...	.55	.010	.279	.025	.74	.42	.206	.091	.085	--
AUG										
26...	.47	.018	.141	<.015	1.3	.46	.210	.086	.074	5.9
SEP										
18...	.48	.014	.328	.030	.67	.40	.215	.097	.098	6.1

11390890 COLUSA BASIN DRAIN AT ROAD 99E, NEAR KNIGHTS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT										
18...	<1.0	4	90	<1.0	<1.0	2.0	<1.0	2.0	<3.0	<1.0
NOV										
07...	<1.0	3	73	<1.0	<1.0	3.0	<1.0	3.0	74	<1.0
DEC										
03...	<1.0	2	72	<1.0	<1.0	4.0	<1.0	2.0	24	<1.0
JAN										
14...	<1.0	2	85	<1.0	<1.0	2.0	<1.0	3.0	18	<1.0
FEB										
18...	<1.0	2	91	<1.0	<1.0	1.0	<1.0	3.0	7.0	<1.0
MAR										
18...	<1.0	2	90	<1.0	<1.0	2.0	<1.0	2.0	<3.0	<1.0
APR										
09...	<1.0	3	86	<1.0	<1.0	4.0	<1.0	2.0	3.0	<1.0
24...	--	--	--	--	--	--	--	--	3.4	--
MAY										
09...	--	--	--	--	--	--	--	--	4.8	--
23...	<1.0	4	94	<1.0	<1.0	3.5	<1.0	2.7	8.6	<1.0
JUN										
06...	--	--	--	--	--	--	--	--	4.1	--
17...	<1.0	4	95	<1.0	<1.0	2.5	<1.0	4.1	4.0	<1.0
JUL										
10...	<1.0	4	105	<1.0	<1.0	6.3	<1.0	1.7	<3.0	<1.0
28...	--	--	--	--	--	--	--	--	3.7	--
AUG										
26...	<1.0	3	88	<1.0	<1.0	1.2	<1.0	2.8	13	<1.0
SEP										
18...	<1.0	2	87	<1.0	<1.0	3.3	<1.0	2.6	3.5	<1.0

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT									
18...	2.0	2.0	3.0	<1	<1.0	<1.0	1.0	4.4	1.9
NOV									
07...	26	2.0	5.0	<1	<1.0	4.0	<1.0	9.1	1.5
DEC									
03...	43	2.0	3.0	<1	<1.0	<1.0	<1.0	6.8	.90
JAN									
14...	4.0	3.0	4.0	<1	<1.0	<1.0	1.0	7.3	1.4
FEB									
18...	47	3.0	3.0	<1	<1.0	<1.0	1.0	5.1	2.1
MAR									
18...	13	2.0	3.0	<1	<1.0	--	1.0	--	--
APR									
09...	32	2.0	3.0	<1	<1.0	2.0	1.0	3.2	1.5
24...	4.9	--	--	--	--	--	--	4.6	1.8
MAY									
09...	1.4	--	--	--	--	--	--	4.5	--
23...	17	3.2	2.7	<1	<1.0	<1.0	1.3	--	--
JUN									
06...	19	--	--	--	--	--	--	4.8	1.2
17...	1.2	3.3	3.0	<1	<1.0	1.5	1.4	5.1	1.3
JUL									
10...	29	3.2	2.4	<1	<1.0	<1.0	1.1	5.6	1.3
28...	22	--	--	--	--	--	--	4.7	.90
AUG									
26...	8.3	2.7	2.8	<1	<1.0	2.6	<1.0	5.2	1.8
SEP									
18...	18	2.3	1.9	<1	<1.0	6.1	<1.0	3.8	1.0

11390890 COLUSA BASIN DRAIN AT ROAD 99E, NEAR KNIGHTS LANDING, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT					
18...N	0950	--	15.0	75	--
NOV					
07...N	1330	586	12.5	60	95
DEC					
03...N	1000	570	9.0	84	129
JAN					
14...N	1130	2360	3.5	137	872
FEB					
18...N	1130	559	11.5	167	252
MAR					
18...N	1030	1180	14.0	278	887
APR					
09...N	1100	497	15.0	121	162
24...N	0940	192	18.0	142	74
MAY					
09...N	0900	73	21.0	--	--
23...N	1030	--	22.0	131	--
JUN					
06...N	1110	--	23.0	154	--
17...N	1000	127	25.0	68	23
JUL					
10...N	0940	400	28.0	135	146
28...N	1100	506	27.0	116	158
AUG					
26...N	1100	1670	23.0	226	1020
SEP					
18...N	1000	553	20.0	148	221

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	596	565	567	532	617	605	740	127	305	274	---	---
2	590	558	532	513	614	605	138	108	335	291	---	---
3	566	555	539	523	620	606	134	105	321	---	---	---
4	567	543	558	538	628	590	132	104	---	---	---	---
5	598	543	573	558	590	549	512	106	---	---	863	826
6	---	---	595	572	586	570	233	132	---	---	862	817
7	---	---	580	569	606	578	414	208	---	---	817	806
8	---	---	572	565	648	606	455	405	---	---	876	811
9	632	621	580	571	697	648	500	446	---	---	958	872
10	650	632	592	580	719	697	532	485	---	---	958	877
11	668	650	592	587	743	719	566	513	---	---	877	743
12	682	668	588	581	727	636	584	553	---	---	743	701
13	692	680	591	586	643	607	609	554	---	---	711	694
14	705	692	592	588	635	619	635	573	---	---	742	711
15	704	689	591	587	680	632	665	626	---	---	750	707
16	698	689	591	585	707	673	709	644	---	---	724	700
17	691	658	590	583	708	692	734	683	---	---	704	622
18	668	662	585	565	745	635	777	724	---	---	640	560
19	680	662	579	560	763	652	814	759	---	---	571	549
20	715	675	560	551	790	682	841	788	---	---	620	571
21	725	683	559	544	802	776	834	784	---	---	702	620
22	684	663	572	544	804	761	837	394	---	---	752	702
23	680	649	571	546	813	779	394	238	---	---	749	711
24	678	577	557	546	856	811	397	330	---	---	711	670
25	585	566	552	543	871	832	355	262	---	---	691	669
26	579	547	556	538	849	821	303	263	---	---	739	691
27	567	544	567	556	851	809	375	159	---	---	734	715
28	571	545	584	565	828	779	282	245	---	---	719	672
29	564	552	599	577	828	778	316	258	---	---	686	668
30	571	546	606	592	798	782	319	281	---	---	681	657
31	591	546	---	---	784	729	315	277	---	---	670	632
MONTH	725	543	606	513	871	549	841	104	335	274	958	549

11390890 COLUSA BASIN DRAIN AT ROAD 99E, NEAR KNIGHTS LANDING, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	632	606	593	548	619	581	---	---	---	---	---	---
2	615	600	593	530	629	608	---	---	---	---	---	---
3	639	598	695	593	634	608	---	---	---	---	---	---
4	631	611	695	641	644	630	---	---	---	---	---	---
5	616	595	642	566	647	626	---	---	---	---	---	---
6	623	608	567	543	815	612	---	---	---	---	---	---
7	634	600	556	544	767	635	---	---	---	---	---	---
8	653	598	589	550	637	598	---	---	---	---	---	---
9	653	613	615	566	616	596	---	---	---	---	---	---
10	615	582	650	591	627	607	---	---	652	633	---	---
11	592	569	649	603	650	620	---	---	660	637	---	---
12	573	533	661	624	665	641	---	---	658	636	---	---
13	551	530	696	649	702	657	---	---	---	---	---	---
14	572	542	695	663	716	683	---	---	---	---	---	---
15	566	544	762	662	708	675	---	---	---	---	---	---
16	587	566	792	736	719	673	---	---	---	---	---	---
17	570	546	736	643	727	694	---	---	---	---	---	---
18	589	545	661	628	747	714	---	---	---	---	---	---
19	568	541	671	639	762	723	---	---	---	---	---	---
20	589	564	662	621	773	733	---	---	---	---	---	---
21	580	562	644	622	796	757	---	---	---	---	---	---
22	579	550	655	624	812	777	---	---	---	---	---	---
23	550	516	667	631	809	790	---	---	---	---	---	---
24	520	504	687	632	825	800	---	---	---	---	---	---
25	525	505	653	540	831	805	---	---	---	---	---	---
26	582	525	543	512	---	---	---	---	---	---	---	---
27	600	563	518	503	---	---	---	---	---	---	---	---
28	603	580	521	502	---	---	---	---	---	---	---	---
29	604	587	546	521	---	---	---	---	---	---	---	---
30	603	577	584	542	---	---	---	---	---	---	---	---
31	---	---	602	582	---	---	---	---	---	---	---	---
MONTH	653	504	792	502	831	581	---	---	660	633	---	---

11390890 COLUSA BASIN DRAIN AT ROAD 99E, NEAR KNIGHTS LANDING, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.0	21.0	13.5	12.5	11.0	10.0	12.5	12.0	12.5	12.0	---	---
2	21.5	21.0	14.0	13.0	10.5	9.0	12.5	12.5	12.5	12.0	---	---
3	22.0	21.0	14.0	13.5	9.5	9.0	13.0	12.5	---	---	---	---
4	22.5	21.5	14.0	13.5	9.5	9.5	12.5	12.0	---	---	---	---
5	23.5	22.0	13.5	13.0	10.0	9.5	12.0	10.5	---	---	13.0	11.5
6	---	---	13.0	12.0	10.0	9.5	10.5	9.5	---	---	13.5	11.5
7	---	---	13.0	12.5	10.5	10.0	9.5	9.0	---	---	14.5	12.5
8	---	---	13.0	12.0	11.0	10.5	9.5	8.5	---	---	15.0	13.0
9	25.5	22.5	13.0	12.0	11.5	11.0	9.0	8.0	---	---	15.5	13.5
10	25.5	22.0	13.5	12.5	12.0	11.5	8.5	8.0	---	---	17.0	14.5
11	23.5	20.5	14.5	13.0	13.5	12.0	8.0	8.0	---	---	17.0	15.5
12	21.5	20.0	14.5	14.0	13.5	13.0	8.0	7.5	---	---	16.5	14.5
13	22.5	20.0	15.0	14.0	13.5	12.5	7.5	4.5	---	---	16.0	14.0
14	21.0	19.0	15.0	14.0	12.5	10.5	4.5	3.5	---	---	16.0	14.0
15	20.5	18.5	14.5	13.5	10.5	10.0	4.0	4.0	---	---	16.5	15.5
16	18.5	17.0	14.0	13.0	10.5	10.0	5.0	4.0	---	---	16.0	14.5
17	17.5	16.0	13.5	12.5	10.0	9.0	6.5	5.0	---	---	16.0	14.0
18	16.0	15.0	14.5	13.5	9.0	8.0	8.0	6.5	---	---	15.5	13.5
19	16.0	14.5	14.0	13.5	8.5	8.0	9.0	8.0	---	---	17.0	14.5
20	15.0	13.5	15.0	14.0	8.5	7.5	9.5	9.0	---	---	18.0	16.5
21	13.5	12.0	14.5	14.5	7.5	7.5	10.0	9.5	---	---	18.5	17.5
22	13.5	11.5	15.0	14.0	8.0	7.5	10.0	8.5	---	---	19.5	18.0
23	14.0	12.5	15.0	14.5	8.5	7.5	8.5	7.0	---	---	20.0	18.5
24	14.5	13.5	14.5	14.0	8.0	7.5	8.0	7.5	---	---	20.0	19.0
25	14.5	13.0	14.5	14.0	8.0	7.5	9.5	7.5	---	---	20.5	18.0
26	13.5	11.0	14.0	12.5	8.5	8.0	10.5	9.5	---	---	21.0	19.5
27	13.0	11.0	12.5	12.0	9.5	8.0	11.0	10.5	---	---	20.5	18.5
28	13.0	11.5	12.0	11.0	9.5	9.5	11.5	11.0	---	---	19.5	18.0
29	13.0	12.0	11.0	10.0	10.0	9.5	12.0	11.5	---	---	18.0	15.5
30	12.5	11.5	10.5	10.0	11.0	10.0	12.0	11.5	---	---	18.0	17.0
31	13.5	12.0	---	---	12.0	11.0	12.0	12.0	---	---	17.5	16.0
MONTH	25.5	11.0	15.0	10.0	13.5	7.5	13.0	3.5	12.5	12.0	21.0	11.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.0	14.5	21.0	19.5	26.0	25.0	---	---	---	---	---	---
2	15.0	13.5	19.5	18.5	26.0	25.0	---	---	---	---	---	---
3	16.0	13.0	21.0	19.5	26.0	24.0	---	---	---	---	---	---
4	15.5	13.0	21.0	19.5	24.0	23.5	---	---	---	---	---	---
5	15.0	13.0	21.5	20.0	24.5	23.0	---	---	---	---	---	---
6	15.5	14.0	22.5	20.0	25.0	23.0	---	---	---	---	---	---
7	17.0	14.5	22.5	21.0	25.5	23.5	---	---	---	---	---	---
8	17.5	16.0	23.0	21.5	26.5	24.0	---	---	---	---	---	---
9	17.5	15.0	22.5	21.0	26.0	23.5	---	---	---	---	---	---
10	17.0	15.0	24.0	22.0	26.0	23.5	---	---	26.5	25.0	---	---
11	17.0	15.5	24.5	22.5	26.0	23.5	---	---	26.0	24.5	---	---
12	17.5	15.5	26.0	23.0	25.5	23.0	---	---	26.0	24.0	---	---
13	18.5	16.0	26.0	23.5	23.0	21.5	---	---	---	---	---	---
14	19.0	17.0	26.0	23.5	23.0	20.5	---	---	---	---	---	---
15	20.0	17.5	26.0	23.5	24.0	21.0	---	---	---	---	---	---
16	20.5	19.0	25.5	23.5	22.5	21.5	---	---	---	---	---	---
17	21.0	20.0	26.0	24.5	24.5	21.0	---	---	---	---	---	---
18	21.0	20.0	26.5	25.0	23.5	22.5	---	---	---	---	---	---
19	20.0	18.5	27.5	25.5	25.0	23.0	---	---	---	---	---	---
20	20.0	19.0	27.0	23.5	26.0	23.5	---	---	---	---	---	---
21	20.0	19.5	25.0	23.0	25.5	23.5	---	---	---	---	---	---
22	20.0	18.5	24.0	22.5	24.0	23.0	---	---	---	---	---	---
23	19.5	18.5	22.5	21.5	24.0	23.0	---	---	---	---	---	---
24	19.0	18.0	22.5	21.0	24.0	23.0	---	---	---	---	---	---
25	18.5	16.5	22.5	20.5	25.5	23.5	---	---	---	---	---	---
26	20.5	18.5	22.0	21.0	---	---	---	---	---	---	---	---
27	21.5	19.0	23.5	21.0	---	---	---	---	---	---	---	---
28	21.0	20.0	25.0	22.5	---	---	---	---	---	---	---	---
29	20.5	19.0	25.5	24.0	---	---	---	---	---	---	---	---
30	22.0	19.5	26.0	24.0	---	---	---	---	---	---	---	---
31	---	---	26.5	25.0	---	---	---	---	---	---	---	---
MONTH	22.0	13.0	27.5	18.5	26.5	20.5	---	---	26.5	24.0	---	---

11391100 SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CA

LOCATION.--Lat 38°47'06", long 121°39'12", in SE 1/4 NE 1/4, sec.20, T.11 N., R.3 E., Sutter County, Hydrologic Unit 18020104, on right bank 200 ft upstream of Karnak Pumping Plant, and 3.6 mi east of Knights Landing.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.-- Water years 1996 to current year.
CHEMICAL DATA.--February 1996 to current year.
SPECIFIC CONDUCTANCE.--October 1995 to September 1996.
WATER TEMPERATURE.--October 1995 to September 1996.
SEDIMENT DATA.--February 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE.--October 1995 to September 1996.
WATER TEMPERATURE.--October 1995 to September 1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)
OCT										
17...	1000	156	390	8.0	16.5	765	8.1	82	26	20
NOV										
07...	0930	778	305	7.7	12.5	772	8.8	81	23	16
DEC										
05...	1100	84	335	8.0	11.0	762	9.6	87	25	19
MAR										
06...	1130	--	307	8.7	12.0	768	9.8	90	24	15
APR										
29...	1040	--	254	8.0	19.0	763	7.6	82	20	13
MAY										
14...	1030	--	397	7.9	23.5	762	6.6	78	26	17
JUN										
19...	1200	--	343	7.9	26.5	762	6.1	76	27	19
JUL										
24...	1030	--	405	7.7	25.5	764	6.3	77	26	18
AUG										
13...	1030	--	341	7.8	25.0	765	7.0	84	26	18
SEP										
24...	1430	--	478	8.0	23.0	755	7.6	89	33	22

DATE	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
OCT										
17...	24	26	2.3	94	6.5	18	<.10	26	246	230
NOV										
07...	18	23	4.2	130	10	10	.10	25	189	190
DEC										
05...	19	22	3.3	160	7.1	10	<.10	28	211	209
MAR										
06...	15	21	1.9	120	9.6	11	.10	21	183	184
APR										
29...	13	22	1.5	90	8.7	9.1	<.10	22	150	155
MAY										
14...	28	31	1.3	140	15	33	.12	23	243	228
JUN										
19...	17	20	1.4	160	8.9	9.2	.12	27	204	206
JUL										
24...	26	29	1.2	150	12	29	.13	26	247	235
AUG										
13...	18	22	1.5	160	6.9	9.3	.12	27	220	206
SEP										
24...	30	27	2.3	170	8.8	35	.12	30	276	271

11391100 SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
17...	.33	.020	.070	<.015	.60	.30	.180	.100	.120	5.0
NOV										
07...	.26	.020	.080	.060	.60	.40	.210	.120	.110	4.0
DEC										
05...	.29	.020	.140	.070	.60	.40	.190	.080	.100	3.0
MAR										
06...	.25	<.010	.160	<.015	.90	<.20	.200	.020	.040	4.0
APR										
29...	.20	.010	.184	.023	.52	.24	.177	.080	.078	5.3
MAY										
14...	.33	.013	.241	.041	.67	<.20	.223	.106	.101	5.8
JUN										
19...	.28	<.010	.113	<.015	.31	.23	.121	.085	.093	6.7
JUL										
24...	.34	<.010	.171	<.015	.53	<.20	.193	.088	.094	4.7
AUG										
13...	.30	.010	.088	.049	.52	.22	.165	.095	.087	4.4
SEP										
24...	.38	<.010	.078	<.015	.50	<.20	.174	.106	.110	4.6

DATE	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT										
17...	<1.0	6	64	<1.0	<1.0	2.0	<1.0	1.0	10	<1.0
NOV										
07...	<1.0	4	51	<1.0	<1.0	3.0	<1.0	2.0	49	<1.0
DEC										
05...	<1.0	3	50	<1.0	<1.0	2.0	<1.0	4.0	32	<1.0
MAR										
06...	<1.0	2	46	<1.0	<1.0	2.0	<1.0	3.0	<3.0	<1.0
APR										
29...	<1.0	4	42	<1.0	<1.0	1.9	<1.0	1.8	5.6	<1.0
MAY										
14...	<1.0	5	56	<1.0	<1.0	2.2	<1.0	3.0	<3.0	<1.0
JUN										
19...	<1.0	6	57	<1.0	<1.0	1.3	<1.0	2.6	4.7	<1.0
JUL										
24...	<1.0	5	63	<1.0	<1.0	2.0	<1.0	2.1	<3.0	<1.0
AUG										
13...	<1.0	5	59	<1.0	<1.0	1.6	<1.0	2.2	3.9	<1.0
SEP										
24...	<1.0	6	70	<1.0	<1.0	1.9	<1.0	2.0	7.0	<1.0

11391100 SACRAMENTO SLOUGH NEAR KNIGHTS LANDING, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT									
17...	30	1.0	3.0	<1	<1.0	<1.0	<1.0	4.5	.90
NOV									
07...	22	1.0	3.0	<1	<1.0	1.0	<1.0	6.3	1.0
DEC									
05...	72	1.0	2.0	<1	<1.0	<1.0	<1.0	5.1	1.0
MAR									
06...	28	<1.0	3.0	<1	<1.0	--	1.0	3.6	1.5
APR									
29...	9.4	<1.0	1.9	<1	<1.0	<1.0	<1.0	3.0	--
MAY									
14...	11	2.0	2.1	<1	<1.0	1.4	<1.0	3.4	1.0
JUN									
19...	3.7	1.1	1.4	<1	<1.0	1.2	1.3	3.7	1.1
JUL									
24...	5.2	2.1	1.8	<1	<1.0	<1.0	<1.0	2.8	1.0
AUG									
13...	7.3	1.3	1.3	<1	<1.0	<1.0	<1.0	3.3	.90
SEP									
24...	13	2.0	2.1	<1	<1.0	<1.0	1.2	3.6	1.2

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT					
17...N	1000	156	16.5	56	24
NOV					
07...N	0930	778	12.5	68	143
DEC					
05...N	1100	84	11.0	53	12
MAR					
06...N	1130	--	12.0	148	--
APR					
29...N	1040	--	19.0	110	--
MAY					
14...N	1030	--	23.5	--	--
JUN					
19...N	1200	--	26.5	83	--
JUL					
24...N	1030	--	25.5	93	--
AUG					
13...N	1030	--	25.0	67	--
SEP					
24...N	1430	--	23.0	65	--

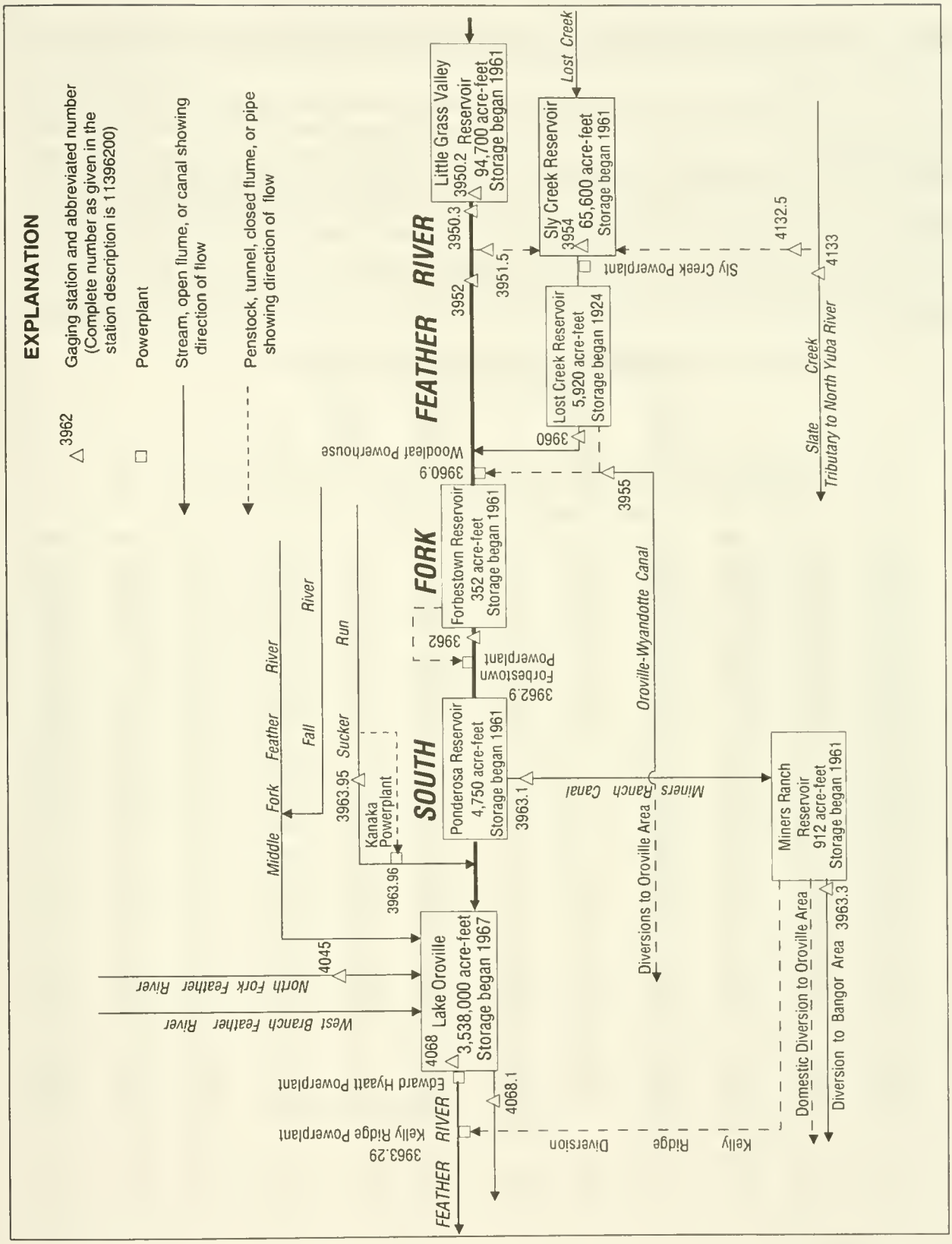

Figure 28. Diversions and storage in South Fork Feather River basin.

11395020 LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE, CA

LOCATION.--Lat 39°43'25", long 121°01'10", in SE 1/4 NW 1/4 sec.31, T.22 N., R.9 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 300 ft upstream from dam on South Fork Feather River, 3.3 mi northwest of La Porte.

DRAINAGE AREA.--25.8 mi^2.

PERIOD OF RECORD.--October 1961 to current year. Monthend elevation and contents only, October 1961 to October 1962.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Nov. 1, 1962, in valve chamber in dam at same datum.

REMARKS.--Reservoir is formed by rockfill dam. Storage began in October 1961. Total capacity, 94,700 acre-ft between elevations 4,876 ft, invert of release valve, and 5,047 ft, top of spillway gates, all of which is available for release. Water is released down South Fork Feather River for power development and irrigation. See schematic diagram of South Fork Feather River basin. Records represent total contents at 2400 hours.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 98,000 acre-ft, May 1, 1995, and May 17, 1996, elevation, 5,049.0 ft; minimum since reservoir first filled, 30,300 acre-ft, many days during 1977, elevation, 4,994.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 87,100 acre-ft, Jan. 1, elevation, 5,042.3 ft; minimum, 54,700 acre-ft, Dec. 4, elevation, 5,019.0 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1963)

4,990	26,300	5,030	68,900
5,000	34,600	5,040	83,500
5,010	44,400	5,048	96,300
5,020	55,900	5,049	98,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67800	61100	55300	86800	75500	69200	72200	80600	82600	77400	70600	60600
2	67700	60700	55100	82600	75300	69000	72400	80900	82500	77200	70200	60200
3	67500	60400	54800	79800	75200	68800	72700	81000	82300	77100	69900	59900
4	67200	60000	55000	78200	75000	68500	72800	81100	82200	76800	69500	59900
5	67100	59800	55900	77200	75000	68200	73000	81300	82000	76600	69200	59800
6	66800	59400	56000	76600	74700	68000	73100	81400	82000	76500	68800	59500
7	66500	59100	56100	76200	74600	67700	73300	81600	81700	76200	68500	59500
8	66400	58700	56300	75900	74400	67500	73600	81700	81600	76000	68100	59400
9	66400	58500	58100	75600	74300	67200	73600	81700	81400	75700	67700	59300
10	66400	58100	61100	75300	74100	66900	73700	81900	81300	75600	67500	59100
11	66300	57700	63900	75200	73900	66800	73900	82000	81100	75500	67200	59000
12	66300	57400	66200	75000	73700	66800	74000	82200	81000	75200	66800	58900
13	66300	57100	67800	74700	73400	66800	74100	82200	80900	75000	66500	58700
14	66200	56800	68800	74600	73100	66900	74300	82300	80700	74700	66300	58700
15	66200	56400	69600	74400	73000	66900	74400	82300	80600	74600	65900	58600
16	66000	56100	70200	74100	72700	67200	74600	82500	80400	74300	65600	58500
17	65600	56400	70500	74000	72500	67300	74700	82500	80300	74100	65200	58400
18	65400	56800	70800	73700	72200	67600	75200	82600	80000	73900	65000	58200
19	65000	57100	71100	73400	72000	67700	75900	82600	79800	73700	64600	58100
20	64700	57100	71400	73300	71800	68000	76500	82600	79700	73600	64300	58100
21	64300	56900	72000	73300	71500	68200	77200	82600	79400	73300	64100	58000
22	64100	57100	72400	73600	71200	68500	77600	82600	79200	73100	63700	57800
23	63700	57100	72500	73300	70900	68900	78200	82800	79000	72800	63400	57700
24	63400	56900	72700	73100	70600	69300	78700	82800	78800	72700	63000	57600
25	63200	56700	72800	74000	70300	69800	79000	82900	78700	72400	62800	57400
26	62800	56400	73900	75200	70100	70200	79400	82900	78400	72200	62400	57400
27	62500	56100	74700	75600	69800	70600	79500	82900	78200	72000	62100	57300
28	62100	55900	75600	75900	69500	70900	80000	82900	77900	71800	61700	57200
29	62000	55500	77200	75900	---	71200	80100	82900	77800	71500	61500	57100
30	61700	55400	80900	75700	---	71700	80400	82900	77500	71200	61100	56900
31	61300	---	82500	75600	---	72000	---	82800	---	70900	60800	---
MAX	67800	61100	82500	86800	75500	72000	80400	82900	82600	77400	70600	60600
MIN	61300	55400	54800	73100	69500	66800	72200	80600	77500	70900	60800	56900
a	5024.2	5019.6	5039.3	5034.6	5034.4	5032.1	5037.9	5039.5	5035.9	5031.4	5023.8	5020.8
b	-6800	-5900	+27100	-6900	-6100	+2500	+8400	+2400	-5300	-6600	-10100	-3900

CAL YR 1996 b +27800
WTR YR 1997 b -11200

a Elevation, in feet, at end of month.
b change in contents, in acre-feet.

11395030 SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CA

LOCATION.--Lat 39°43'26", long 121°01'16", in SW 1/4 NW 1/4 sec.31, T.22 N., R.9 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.1 mi downstream from Little Grass Valley Dam and 3.5 mi northwest of La Porte.

DRAINAGE AREA.--25.9 mi^2.

PERIOD OF RECORD.--October 1927 to September 1933 (published as "near La Porte"), October 1960 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,809.0 ft above sea level. Prior to Oct. 1, 1960, at site 0.4 mi upstream at different datum. Oct. 1, 1960, to Oct. 30, 1962, at present site and datum. Nov. 1, 1962, to May 31, 1966, at site on outlet works at base of Little Grass Valley Dam 0.1 mi upstream at datum 4,850.00 ft above sea level.

REMARKS.--Flow regulated by Little Grass Valley Reservoir (station 11395020) beginning in October 1961. No diversion upstream from station. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,370 ft^3/s, Jan. 1, 1997, gage height, 14.80 ft; minimum daily, 0.2 ft^3/s, Oct. 28-31, Nov. 2, 1961.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	167	166	5420	294	196	8.0	13	99	98	161	161
2	116	167	165	4920	268	196	7.9	13	99	98	161	161
3	116	167	165	2660	243	196	7.9	13	99	98	161	105
4	116	167	166	1480	223	195	7.9	13	100	98	161	49
5	116	167	176	925	208	196	7.8	13	99	98	161	49
6	116	167	168	654	197	196	7.6	13	99	98	161	49
7	116	167	167	510	193	196	13	13	99	98	161	49
8	67	167	167	414	193	196	8.7	13	99	98	160	49
9	14	167	179	337	193	196	8.9	13	99	98	160	49
10	14	166	185	283	193	196	8.6	13	99	98	160	49
11	14	166	183	242	194	106	8.6	13	99	98	160	49
12	14	166	178	214	194	43	8.6	13	99	98	160	49
13	14	166	84	197	194	43	8.6	13	98	98	160	49
14	14	165	22	192	194	43	8.6	13	98	98	160	49
15	14	165	21	192	194	44	8.8	13	99	98	160	49
16	98	165	21	192	194	44	9.2	12	98	98	160	49
17	169	167	20	191	194	45	9.0	12	98	98	160	49
18	169	172	20	191	195	45	9.7	12	98	98	160	49
19	169	171	20	191	195	45	15	12	98	98	160	49
20	168	169	20	192	195	24	12	12	98	98	160	49
21	168	167	20	191	195	9.1	12	12	98	98	161	49
22	168	170	20	192	195	9.5	11	12	98	98	161	49
23	168	167	20	192	195	9.6	12	12	98	98	160	49
24	168	167	20	191	194	9.5	11	12	98	97	161	49
25	168	166	20	196	194	9.4	10	12	98	97	161	49
26	167	166	120	210	195	9.6	9.9	12	98	97	161	49
27	167	166	204	294	195	9.2	9.8	12	98	97	161	49
28	167	165	248	370	195	8.8	9.7	12	98	97	161	49
29	167	165	440	380	---	8.5	9.6	12	98	97	161	49
30	167	165	1260	354	---	8.3	12	59	98	133	162	49
31	167	---	3510	319	---	8.2	---	99	---	161	161	---
TOTAL	3592	5005	8175	22486	5706	2540.7	291.4	521	2954	3130	4978	1750
MEAN	116	167	264	725	204	82.0	9.71	16.8	98.5	101	161	58.3
MAX	169	172	3510	5420	294	196	15	99	100	161	162	161
MIN	14	165	20	191	193	8.2	7.6	12	98	97	160	49
AC-FT	7120	9930	16220	44600	11320	5040	578	1030	5860	6210	9870	3470

11395030 SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1933, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.56	19.5	47.6	26.3	45.2	134	181	201	78.8	7.70	1.74	1.35
MAX	6.62	94.5	206	51.3	94.7	386	301	384	169	13.7	2.54	1.72
(WY)	1932	1928	1930	1928	1930	1928	1930	1932	1933	1932	1932	1930
MIN	1.43	1.67	2.65	3.60	3.55	14.5	106	48.9	13.8	2.38	1.06	1.04
(WY)	1929	1930	1933	1933	1933	1933	1933	1931	1931	1931	1931	1931

SUMMARY STATISTICS	WATER YEARS 1928 - 1933	
ANNUAL MEAN	62.3	
HIGHEST ANNUAL MEAN	85.6	1932
LOWEST ANNUAL MEAN	28.0	1931
HIGHEST DAILY MEAN	1800	Mar 25 1928
LOWEST DAILY MEAN	.90	Aug 25 1931
ANNUAL SEVEN-DAY MINIMUM	.90	Sep 1 1931
INSTANTANEOUS PEAK FLOW	2600	Mar 26 1928
INSTANTANEOUS PEAK STAGE	7.00	Mar 26 1928
ANNUAL RUNOFF (AC-FT)	45140	
10 PERCENT EXCEEDS	202	
50 PERCENT EXCEEDS	10	
90 PERCENT EXCEEDS	1.4	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	99.0	76.4	74.3	105	106	103	77.5	138	92.8	114	145	167
MAX	305	404	420	725	694	586	317	489	396	350	344	389
(WY)	1970	1982	1982	1997	1986	1995	1989	1995	1983	1983	1968	1984
MIN	13.0	2.94	4.01	2.36	2.25	3.70	4.31	4.38	3.99	3.71	7.43	10.0
(WY)	1986	1976	1979	1964	1976	1964	1964	1977	1977	1977	1976	1981

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	57874		61129.1			
ANNUAL MEAN	158		167		108	
HIGHEST ANNUAL MEAN					250	1982
LOWEST ANNUAL MEAN					29.5	1981
HIGHEST DAILY MEAN	3510	Dec 31	5420	Jan 1	5420	Jan 1 1997
LOWEST DAILY MEAN	12	Jan 3	7.6	Apr 6	1.4	Jan 27 1964
ANNUAL SEVEN-DAY MINIMUM	12	Jan 3	7.9	Mar 31	1.4	Jan 27 1964
INSTANTANEOUS PEAK FLOW			7370	Jan 1	7370	Jan 1 1997
INSTANTANEOUS PEAK STAGE			14.80	Jan 1	14.80	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	114800		121200		78440	
10 PERCENT EXCEEDS	254		196		251	
50 PERCENT EXCEEDS	119		99		41	
90 PERCENT EXCEEDS	14		12		5.1	

11395150 SOUTH FORK TUNNEL NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°38'55", long 120°07'00", in NW 1/4 SW 1/4 sec.29, T.21 N., R.8 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, 3.2 mi upstream from Rock Creek, and 5.8 mi north of Strawberry Valley.

PERIOD OF RECORD.--October 1973 to current year. Records of daily discharge for November 1961 to September 1973 are in files of the U.S. Geological Survey. Monthly diversion used to adjust South Fork Feather River below diversion dam near Strawberry Valley (station 11395200) since October 1961.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Tunnel diverts water from South Fork Feather River to Sly Creek Reservoir (station 11395400) for power development. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 570 ft^3/s, Mar. 13, May 25-29, June 3, 1983; no flow many days in 1980-82, Mar. 11-28, 1995 and Jan. 1-9, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	175	205	.00	441	251	41	28	107	104	161	158
2	107	175	189	.00	398	257	39	26	107	102	160	159
3	107	174	186	.00	362	252	34	24	109	102	160	133
4	107	173	206	.00	339	250	28	23	117	102	160	48
5	107	171	456	.00	315	249	26	22	109	102	160	46
6	110	172	358	.00	296	249	25	21	107	103	161	46
7	108	171	294	.00	285	248	27	20	106	102	161	46
8	95	170	280	.00	278	247	26	19	105	102	161	46
9	15	170	430	.00	272	247	28	18	109	102	160	46
10	5.2	169	545	224	268	247	29	18	107	101	160	46
11	4.6	169	526	325	236	183	25	17	106	101	161	46
12	4.4	168	550	298	228	78	21	16	107	101	161	46
13	4.4	168	479	276	243	76	20	16	108	100	160	46
14	4.3	169	286	267	243	76	20	15	106	101	160	47
15	2.7	168	199	266	255	77	19	15	106	99	160	50
16	54	169	155	261	255	91	19	14	106	99	159	46
17	174	222	124	258	260	108	19	14	105	100	159	46
18	177	283	105	255	256	104	21	13	105	100	160	47
19	174	251	91	253	245	100	66	13	105	100	160	46
20	173	243	81	254	261	88	40	13	105	100	164	46
21	173	211	84	250	254	63	47	12	105	99	162	46
22	173	263	77	277	252	62	41	12	105	98	161	46
23	172	226	71	286	250	61	59	16	104	98	161	46
24	176	206	64	272	250	56	45	17	104	99	160	46
25	174	196	61	448	257	51	38	13	104	98	160	46
26	170	190	227	561	257	48	34	12	104	99	161	46
27	170	186	518	559	257	52	31	12	104	99	161	45
28	170	184	536	560	253	51	30	11	104	98	160	45
29	182	181	544	558	---	47	30	11	103	98	158	45
30	176	179	454	521	---	44	26	33	104	122	158	46
31	173	---	82	478	---	45	---	108	---	161	158	---
TOTAL	3549.6	5752	8463	7707.00	7766	4058	954	622	3183	3192	4968	1697
MEAN	115	192	273	249	277	131	31.8	20.1	106	103	160	56.6
MAX	182	283	550	561	441	257	66	108	117	161	164	159
MIN	2.7	168	61	.00	228	44	19	11	103	98	158	45
AC-FT	7040	11410	16790	15290	15400	8050	1890	1230	6310	6330	9850	3370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1997, BY WATER YEAR (WY)

MEAN	84.7	103	108	121	138	167	140	169	106	114	127	147
MAX	176	377	462	381	406	454	429	520	421	363	327	390
(WY)	1975	1982	1982	1974	1996	1983	1989	1993	1983	1983	1983	1978
MIN	6.21	4.14	3.36	5.99	8.49	9.71	8.68	16.4	7.22	4.43	4.03	.000
(WY)	1986	1977	1977	1977	1977	1977	1977	1977	1977	1977	1981	1981

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1974 - 1997	
ANNUAL TOTAL	66944.6		51911.60			
ANNUAL MEAN	183		142		127	
HIGHEST ANNUAL MEAN					294	1983
LOWEST ANNUAL MEAN					35.0	1977
HIGHEST DAILY MEAN	564	May 22	561	Jan 26	570	Mar 13 1983
LOWEST DAILY MEAN	2.7	Oct 15	.00	Jan 1	.00	Jan 16 1980
ANNUAL SEVEN-DAY MINIMUM	5.8	Oct 9	.00	Jan 1	.00	Jan 16 1980
ANNUAL RUNOFF (AC-FT)	132800		103000		91920	
10 PERCENT EXCEEDS	393		272		315	
50 PERCENT EXCEEDS	130		107		81	
90 PERCENT EXCEEDS	82		18		8.2	

11395200 SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°38'51", long 121°07'04", in NE 1/4 SE 1/4 sec.30, T.21 N., R.8 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.1 mi downstream from diversion dam, 3.1 mi upstream from Rock Creek, and 5.8 mi north of Strawberry Valley.

DRAINAGE AREA.--37.7 mi^2.

PERIOD OF RECORD.--October 1960 to current year.

REVISED RECORDS.--WDR CA-80-4: 1976(M).

GAGE.--Water-stage recorder and since May 8, 1987, sharp crested rectangular weir. Datum of gage is 3,535.02 ft above sea level (levels by Oroville-Wyandotte Irrigation District).

REMARKS.--Flow regulated by Little Grass Valley Reservoir (station 11395020) since October 1961. South Fork Diversion Tunnel, maximum capacity, about 600 ft^3/s 500 ft upstream, diverts to Sly Creek Reservoir (station 11395400); diversion began in November 1961. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s, Jan. 1, 1997, gage height unknown, from computation of peak flow over diversion dam; minimum daily, 0.3 ft^3/s, Dec. 25, 1962, to Jan. 2, 1963, Mar. 1-3, 1963.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	8.0	6.2	9020	48	29	7.4	11	12	11	11	11
2	13	6.0	6.0	7310	48	29	7.4	11	12	11	11	11
3	13	6.0	6.0	3570	48	29	12	11	12	11	11	11
4	13	6.0	e6.0	1980	48	29	16	11	12	11	11	10
5	13	6.0	33	1290	48	29	16	11	12	11	11	10
6	13	6.0	e6.0	897	48	29	16	11	12	11	11	10
7	13	6.0	e6.0	693	48	29	16	11	12	11	11	10
8	13	6.0	e6.2	563	48	29	14	11	12	11	11	10
9	12	6.0	19	473	48	29	13	11	12	11	11	10
10	11	6.0	313	202	48	29	10	11	12	11	11	10
11	11	6.0	235	48	48	27	e7.9	11	11	11	11	10
12	11	6.0	105	48	48	25	7.7	11	11	11	11	10
13	11	6.0	45	48	48	25	7.7	11	11	11	11	10
14	11	6.0	e6.2	48	48	25	7.7	11	11	11	11	10
15	19	6.0	e6.2	48	48	25	7.7	11	11	11	11	10
16	11	6.0	e6.1	48	48	25	7.7	11	11	11	11	10
17	11	6.3	e6.1	48	48	25	7.7	11	11	11	11	10
18	11	6.3	e6.1	48	48	25	7.8	11	11	11	11	10
19	11	6.2	e6.0	48	42	25	8.1	11	11	11	11	10
20	11	6.2	e6.0	48	43	24	8.0	11	11	11	11	10
21	11	6.2	e6.2	49	47	20	8.1	11	11	11	11	10
22	11	6.3	e6.2	50	47	21	8.0	11	11	11	11	10
23	11	6.2	6.2	49	47	21	8.2	11	11	11	11	10
24	11	6.1	6.2	49	38	21	8.1	11	11	11	11	10
25	11	6.0	6.2	50	29	21	8.0	11	11	11	11	10
26	11	6.0	15	106	29	21	8.0	11	11	11	11	10
27	11	6.0	15	150	29	15	8.0	11	11	11	11	10
28	11	6.0	121	118	29	9.2	8.0	11	11	11	11	10
29	12	6.0	548	73	---	7.4	8.0	11	11	11	11	10
30	12	6.0	2310	48	---	7.4	9.9	11	11	11	11	10
31	12	---	5490	48	---	7.4	---	12	---	11	11	---
TOTAL	369	183.8	9365.1	27268	1244	712.4	288.1	342	340	341	341	303
MEAN	11.9	6.13	302	880	44.4	23.0	9.60	11.0	11.3	11.0	11.0	10.1
MAX	19	8.0	5490	9020	48	29	16	12	12	11	11	11
MIN	11	6.0	6.0	48	29	7.4	7.4	11	11	11	11	10
AC-FT	732	365	18580	54090	2470	1410	571	678	674	676	676	601

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

MEAN	10.2	13.8	45.6	88.5	58.4	52.2	26.4	43.3	15.9	9.55	10.2	10.5
MAX	16.1	226	808	885	1113	741	317	417	82.5	13.3	18.5	18.8
(WY)	1982	1982	1965	1970	1986	1995	1982	1995	1983	1968	1973	1973
MIN	2.92	2.62	2.41	3.94	2.73	3.79	3.68	3.61	2.20	2.57	3.32	3.45
(WY)	1978	1978	1980	1976	1978	1980	1970	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	25022.7		41097.4			
ANNUAL MEAN	68.4		113		32.0	
HIGHEST ANNUAL MEAN					120	1995
LOWEST ANNUAL MEAN					3.72	1977
HIGHEST DAILY MEAN	5490	Dec 31	9020	Jan 1	9020	Jan 1 1997
LOWEST DAILY MEAN	5.1	Apr 26	6.0	Nov 2	.70	Jan 18 1968
ANNUAL SEVEN-DAY MINIMUM	5.2	Apr 23	6.0	Nov 2	1.1	Jan 18 1968
INSTANTANEOUS PEAK FLOW			11300	Jan 1	11300	Jan 1 1997
INSTANTANEOUS PEAK STAGE			unknown	Jan 1	unknown	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	49630		81520		23190	
10 PERCENT EXCEEDS	14		48		12	
50 PERCENT EXCEEDS	11		11		8.1	
90 PERCENT EXCEEDS	5.8		6.2		4.3	

e Estimated.

11395400 SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°35'01", long 121°06'59", in NE 1/4 NE 1/4 sec.19, T.20 N., R.8 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 100 ft upstream from dam on Lost Creek, 1.4 mi northwest of Strawberry Valley.

DRAINAGE AREA.--24.0 mi^2.

PERIOD OF RECORD.--November 1961 to current year (fragmentary prior to Mar. 14, 1962).

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1966, water-stage recorder in valve chamber inside dam at same datum. Oct. 1, 1966, to December 1974, nonrecording gage read once daily.

REMARKS.--Reservoir is formed by earthfill dam. Storage began in November 1961. Total capacity, 65,600 acre-ft between elevations 3,285 ft, invert of outlet, and 3,531 ft, top of spillway gate, all of which is available for release. Water is diverted into reservoir from South Fork Feather River through South Fork Diversion Tunnel and from North Yuba River basin through Slate Creek Tunnel (station 11413250). See schematic diagram of South Fork Feather River basin. Records represent total contents at 2400 hours.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 65,600 acre-ft, June 22, 1978, elevation, 3,530.9 ft; minimum observed under normal operating conditions since reservoir first filled, 860 acre-ft, Feb. 11, 1976, elevation, 3,320.0 ft. Reservoir completely drained for powerplant construction, Sept. 12 to Oct. 17, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 60,700 acre-ft, Jan. 1, elevation, 3,522.7 ft; minimum, 13,200 acre-ft, Sept. 7, elevation, 3,407.2 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co. in 1946)

3,310	450	3,360	4,300	3,450	26,300
3,315	655	3,380	7,360	3,480	38,500
3,320	860	3,40	11,500	3,510	53,400
3,340	2,150	3,420	16,600	3,531	65,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22400	27900	42900	60500	56200	46600	45000	53700	53200	49400	30700	18100
2	22600	27700	43500	58600	56700	46500	45200	54200	53600	48900	30200	17400
3	22800	27700	43800	57400	56700	46300	45200	54000	53300	48500	29500	16600
4	23000	28000	43800	56600	56700	46200	45300	54400	53300	48300	28800	15600
5	23200	28400	46000	55800	56500	46000	45500	54700	53400	48400	28100	14600
6	23400	28700	46400	55100	56300	45600	45500	55100	53200	48200	27500	13800
7	23600	29000	46600	54100	56100	45300	45500	55400	52900	48000	26700	13300
8	23600	29400	47100	53100	55800	45200	45800	55100	52800	47400	26400	13400
9	23700	29700	48300	52000	55400	44900	46200	54800	52600	46600	26200	13500
10	23700	30100	50600	52000	55100	44600	46600	55100	52900	46500	25800	13600
11	23700	30400	52900	52900	54600	44200	46500	55400	52800	45700	25100	13700
12	23800	30700	54700	53800	54100	43600	45900	55700	52400	45100	24300	13800
13	23800	31100	55600	54000	53600	43000	45800	56000	52200	44700	23600	13900
14	23800	31400	55800	53100	53000	42500	45600	55800	52500	43900	22900	14100
15	23500	31700	55800	52400	52500	42000	45500	55700	52400	43200	22500	14200
16	23400	32100	55400	51600	52000	41600	45200	55300	52200	42300	21800	14300
17	23400	32800	55000	50900	51500	41400	45500	55200	51800	41500	21100	14500
18	23700	33700	54500	50400	51100	41400	46000	55100	51600	40700	20500	14600
19	23900	34500	53600	49800	50600	41500	47200	54800	51900	40500	20400	14700
20	24200	35400	52400	49400	50000	41500	48000	54400	52000	39900	20700	14800
21	24600	36200	51400	49100	49500	41300	49300	54300	51700	39400	21100	14900
22	24900	37600	50300	49300	48800	41900	49200	54400	51400	38500	21300	15000
23	25200	38500	49100	49200	48200	42000	50300	54600	51100	37700	21500	15100
24	25500	39300	47900	48500	47600	42200	51100	54300	50900	37100	21800	15200
25	25700	39900	47000	49500	47000	42300	51700	54500	50500	36300	21400	15200
26	25900	40500	47100	51500	47000	42700	52300	54700	50300	35400	21300	15300
27	26200	40900	48900	53000	47200	43500	52900	54200	49900	34700	21500	15400
28	26500	41400	50700	54200	46900	43800	53100	54100	50100	33700	21300	15500
29	26900	41800	53000	54600	---	44000	53100	53700	49800	33000	20600	15600
30	27200	42300	57200	54800	---	44300	53200	53300	49500	32200	19700	15700
31	27600	---	58800	55300	---	44700	---	53600	---	31400	18900	---
MAX	27600	42300	58800	60500	56700	46600	53200	56000	53600	49400	30700	18100
MIN	22400	27700	42900	48500	46900	41300	45000	53300	49500	31400	18900	13300
a	3453.4	3488.1	3519.5	3513.5	3497.5	3493.0	3509.5	3510.3	3502.6	3463.2	3427.8	3416.6
b	+5400	+14700	+16500	-3500	-8400	-2200	+8500	+400	-4100	-18100	-12500	-3200

CAL YR 1996 +37600
WTR YR 1997 -6500

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11395500 OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°33'15", long 121°11'31", in NW 1/4 NE 1/4 sec.33, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, in concrete valve house at head of canal and 2.5 mi north of Clipper Mills.

PERIOD OF RECORD.--October 1927 to September 1941 (published as Forbestown Ditch), October 1953 to current year. Monthly discharge only for October 1953 to September 1961, published with records for Lost Creek near Clipper Mills.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 3,166.0 ft above sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, nonrecording gages and Oct. 1, 1941, to Nov. 16, 1962, water-stage recorder at sites at different datums 4 mi upstream in abandoned part of canal, 0.3 mi downstream from Lost Creek Dam.

REMARKS.--Water is discharged to canal through valve in Woodleaf Penstock. Prior to Nov. 16, 1962, canal diverted from Lost Creek Dam. Water is used for irrigation and domestic supply. Demand for water reduced when a large lumber mill closed at Woodleaf in 1962. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft^3/s, Aug. 9 to Sept. 9, 1937, Aug. 13-15, 1977; no flow at times in many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	2.4	.00	.00	.00	.00	1.9	9.9	15	21	23	24
2	23	2.4	.00	.00	.00	.00	.00	14	15	22	23	24
3	23	2.5	.00	.00	.00	.00	.00	14	15	22	23	24
4	23	2.5	.00	.00	.00	.00	.00	14	15	22	23	24
5	23	2.5	.00	.00	.00	.00	.00	14	15	22	24	24
6	23	2.5	.00	.00	.00	.00	.00	14	15	22	24	24
7	23	2.5	.00	.00	.00	.00	.00	14	15	22	24	24
8	23	2.4	.00	.00	.00	.00	.00	14	15	22	24	24
9	23	2.4	.00	.00	.00	.00	.00	14	15	22	24	24
10	23	2.4	.00	.00	.00	.00	.00	15	15	22	24	24
11	24	1.1	.00	.00	.00	.00	.00	15	15	22	24	24
12	24	.00	.00	.00	.00	8.8	.00	16	15	22	24	24
13	24	.00	.00	.00	.00	12	.00	16	15	22	24	24
14	24	.00	.00	.00	.00	9.2	.00	15	19	22	24	24
15	14	.00	.00	.00	.00	9.2	5.8	16	19	22	24	24
16	5.8	.00	.00	.00	.00	9.1	8.7	15	19	22	24	24
17	5.8	.00	.00	.00	.00	7.0	8.7	15	19	22	24	24
18	9.6	.00	4.0	.00	.00	5.7	8.7	15	19	22	24	24
19	12	.00	6.8	.00	.00	5.7	2.7	16	19	22	24	24
20	12	.00	6.8	.00	.00	5.7	.00	16	19	22	24	24
21	12	.00	6.8	.00	.00	5.7	.00	16	19	22	24	8.5
22	10	4.0	6.8	.00	.00	5.7	.00	15	19	22	24	.00
23	9.6	6.8	3.2	.00	.00	5.7	.00	15	19	22	24	.00
24	9.6	6.8	.00	.00	.00	5.7	.00	15	19	23	24	13
25	9.7	6.8	.00	.00	.00	5.7	.00	15	19	23	24	22
26	9.7	2.5	.00	.00	.00	5.7	.00	15	19	23	24	24
27	9.7	.00	.00	.00	.00	5.7	.00	15	19	23	24	24
28	9.7	.00	.00	.00	.00	5.7	.00	15	19	23	24	24
29	8.7	.00	.00	.00	---	5.7	.00	15	19	23	24	24
30	5.2	.00	.00	.00	---	5.7	.00	15	19	23	24	24
31	2.4	---	.00	.00	---	5.7	---	15	---	23	24	---
TOTAL	482.5	52.50	34.40	0.00	0.00	135.10	36.50	457.9	518	689	740	643.50
MEAN	15.6	1.75	1.11	.000	.000	4.36	1.22	14.8	17.3	22.2	23.9	21.5
MAX	24	6.8	6.8	.00	.00	12	8.7	16	19	23	24	24
MIN	2.4	.00	.00	.00	.00	.00	.00	9.9	15	21	23	.00
AC-FT	957	104	68	.00	.00	268	72	908	1030	1370	1470	1280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)												
MEAN	12.8	5.80	2.31	1.38	.81	1.02	1.87	5.75	12.3	17.5	20.7	19.7
MAX	20.2	16.5	8.64	6.89	5.34	6.70	11.4	20.2	29.3	26.4	37.4	30.9
(WY)	1967	1968	1977	1968	1977	1964	1977	1977	1963	1976	1977	1977
MIN	3.75	.84	.000	.000	.000	.000	.000	.000	2.31	8.79	9.47	9.29
(WY)	1990	1992	1982	1980	1963	1963	1963	1975	1967	1965	1965	1965

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	2627.20		3789.40			
ANNUAL MEAN	7.18		10.4		8.54	
HIGHEST ANNUAL MEAN					16.7	1977
LOWEST ANNUAL MEAN					4.92	1983
HIGHEST DAILY MEAN	29	Aug 19	24	Oct 1	43	Aug 13 1977
LOWEST DAILY MEAN	.00	Jan 1	.00	Nov 12	.00	Dec 12 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Nov 12	.00	Dec 15 1962
ANNUAL RUNOFF (AC-FT)	5210		7520		6190	
10 PERCENT EXCEEDS	23		24		22	
50 PERCENT EXCEEDS	2.4		8.7		5.7	
90 PERCENT EXCEEDS	.00		.00		.00	

11396000 LOST CREEK NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°34'25", long 121°08'26", in SE 1/4 SW 1/4 sec.24, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.3 mi downstream from Lost Creek Reservoir and 2.8 mi north of Clipper Mills.

DRAINAGE AREA.--30.0 mi^2.

PERIOD OF RECORD.--October 1927 to September 1941, October 1948 to current year. Records for Woodleaf Powerplant from February 1963 to September 1966 in files of the U.S. Geological Survey.

REVISED RECORDS.--WSP 1395: 1954. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Sharp crested weir for low-water control since June 20, 1987. Elevation of gage is 3,170 ft above sea level, from topographic map. Prior to June 20, 1987, at site 100 ft downstream at same datum.

REMARKS.--Flow regulated by Sly Creek Reservoir (station 11395400) 1.5 mi upstream and Lost Creek Reservoir 0.3 mi upstream, usable capacity, 5,920 acre-ft with flashboards. Water is diverted into Sly Creek Reservoir through South Fork Diversion Tunnel from South Fork Feather River and through Slate Creek Tunnel (station 11413250) from North Yuba River basin. Woodleaf Tunnel diverts from Lost Creek Reservoir to Woodleaf Powerplant. Oroville-Wyandotte Canal (station 11395500) diverts from Woodleaf Penstock for irrigation and domestic use. Records represent seepage, release, and spill from Lost Creek Reservoir to Lost Creek. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,760 ft^3/s, Jan.1, 1997, gage height, 13.50 ft; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	5.8	3.8	4490	338	e4.1	7.0	5.9	5.9	5.6	6.1	9.3
2	6.0	5.8	3.7	4110	473	e4.1	7.0	5.9	5.8	5.7	5.8	9.3
3	6.0	5.8	3.7	1940	559	e4.1	e5.9	6.0	5.6	6.3	5.9	9.3
4	5.9	5.8	4.0	879	548	4.1	e5.9	6.3	5.6	8.0	9.6	9.3
5	5.8	5.6	5.3	539	499	4.1	5.9	6.1	5.5	6.6	8.9	8.5
6	5.8	5.6	4.2	424	431	4.1	5.9	6.1	5.5	5.5	8.4	7.2
7	5.8	5.5	4.0	394	394	4.1	5.9	6.1	5.6	5.5	7.8	6.7
8	5.8	4.5	3.9	380	362	4.1	6.0	6.1	5.7	5.5	7.1	6.7
9	5.8	3.5	5.0	373	359	4.1	5.9	6.1	8.3	5.5	7.4	6.7
10	5.8	3.5	293	217	355	4.1	5.7	6.1	8.1	5.5	8.1	6.7
11	5.8	3.5	457	e4.1	345	4.1	5.7	6.1	5.5	5.5	8.2	6.7
12	5.8	3.5	438	e4.1	336	4.1	5.8	6.1	5.6	5.5	8.2	12
13	5.8	3.5	430	e4.1	331	4.1	5.9	5.9	7.2	5.5	8.2	6.6
14	5.8	3.5	17	339	329	4.1	5.9	5.9	8.1	5.5	7.9	6.6
15	5.8	3.5	4.4	362	326	4.1	5.9	5.9	5.5	5.5	8.0	6.5
16	5.8	3.6	4.3	355	322	4.2	5.9	5.9	5.5	6.1	7.9	6.5
17	5.8	4.0	4.2	349	322	4.3	5.9	5.9	5.5	8.6	7.9	145
18	5.9	4.0	4.1	343	317	4.1	6.0	5.9	5.7	11	7.9	218
19	5.7	4.0	75	260	316	4.1	6.0	5.9	5.6	8.8	7.7	205
20	5.6	3.9	357	287	318	4.1	5.9	5.9	5.5	6.2	7.6	190
21	5.6	3.8	374	270	315	4.1	5.9	5.9	5.5	5.8	7.4	82
22	5.6	4.1	361	450	312	4.1	5.9	5.9	5.5	5.7	7.3	7.4
23	5.6	3.8	353	420	308	4.1	5.9	6.0	5.6	7.1	6.8	7.4
24	5.7	3.7	347	385	306	4.1	5.9	5.9	5.7	6.4	6.7	7.4
25	5.8	3.7	342	520	301	4.1	5.8	5.9	5.7	6.1	7.9	7.6
26	5.8	3.7	394	610	e9.4	4.1	5.7	5.9	5.7	5.7	12	7.7
27	5.8	3.7	469	496	e5.3	4.1	5.7	5.9	5.7	5.7	11	7.7
28	5.8	3.7	470	469	e4.1	4.1	5.8	5.9	5.7	6.3	9.0	7.7
29	6.0	3.6	528	440	---	4.1	5.9	5.9	5.6	5.9	9.5	7.5
30	5.8	3.6	761	376	---	4.1	5.9	5.9	5.6	5.7	9.5	7.4
31	5.8	---	2490	414	---	5.6	---	5.9	---	6.3	9.3	---
TOTAL	179.8	125.8	9010.6	20903.3	9140.8	128.9	178.4	185.1	177.6	194.6	251.0	1032.4
MEAN	5.80	4.19	291	674	326	4.16	5.95	5.97	5.92	6.28	8.10	34.4
MAX	6.0	5.8	2490	4490	559	5.6	7.0	6.3	8.3	11	12	218
MIN	5.6	3.5	3.7	4.1	4.1	4.1	5.7	5.9	5.5	5.5	5.8	6.5
AC-FT	357	250	17870	41460	18130	256	354	367	352	386	498	2050
a	1490	2290	28060	26540	29610	28500	9360	8860	12460	23260	24190	7230

e Estimated.

a Diversion, acre-feet, through Woodleaf Powerplant (station 11396090), provided by Oroville–Wyandotte Irrigation District.

11396000 LOST CREEK NEAR CLIPPER MILLS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1961, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.78	8.61	66.0	93.4	170	175	191	129	29.9	6.42	4.23	5.13
MAX	13.4	121	544	485	562	467	423	441	153	34.7	10.2	15.3
(WY)	1928	1951	1956	1956	1958	1938	1938	1952	1952	1952	1961	1960
MIN	.20	.000	.000	.15	.50	25.7	4.68	1.21	1.33	.20	.10	.10
(WY)	1935	1960	1960	1960	1937	1933	1931	1931	1934	1939	1934	1934

SUMMARY STATISTICS	WATER YEARS 1928 - 1961	
ANNUAL MEAN	73.0	
HIGHEST ANNUAL MEAN	167	1938
LOWEST ANNUAL MEAN	6.78	1931
HIGHEST DAILY MEAN	3840	Dec 22 1955
LOWEST DAILY MEAN	.00	Jul 30 1940
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 1 1959
INSTANTANEOUS PEAK FLOW	5000	Dec 22 1955
INSTANTANEOUS PEAK STAGE	a6.90	Dec 22 1955
ANNUAL RUNOFF (AC-FT)	52890	
10 PERCENT EXCEEDS	212	
50 PERCENT EXCEEDS	8.4	
90 PERCENT EXCEEDS	.30	

a Site then in use.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1997, BY WATER YEAR (WY)

MEAN	13.0	6.73	34.6	55.2	65.1	71.9	56.6	44.1	32.7	3.72	3.18	3.51
MAX	392	179	355	674	512	573	410	454	750	16.0	22.2	34.4
(WY)	1963	1963	1982	1997	1986	1983	1993	1995	1995	1962	1966	1997
MIN	.006	.029	.094	.10	.35	.33	.22	.13	.097	.10	.000	.000
(WY)	1965	1975	1975	1962	1964	1964	1968	1968	1966	1963	1964	1963

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1962 - 1997	
ANNUAL TOTAL	41960.1		41508.3			
ANNUAL MEAN	115		114		32.4	
HIGHEST ANNUAL MEAN					200	1995
LOWEST ANNUAL MEAN					.49	1964
HIGHEST DAILY MEAN	2490	Dec 31	4490	Jan 1	4490	Jan 1 1997
LOWEST DAILY MEAN	3.5	Jan 5	3.5	Nov 9	.00	Oct 21 1961
ANNUAL SEVEN-DAY MINIMUM	3.5	Jan 5	3.5	Nov 9	.00	Oct 21 1961
INSTANTANEOUS PEAK FLOW			5760	Jan 1	5760	Jan 1 1997
INSTANTANEOUS PEAK STAGE			13.50	Jan 1	13.50	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	83230		82330		23440	
TOTAL DIVERSION (AC-FT) b	257500		201900			
10 PERCENT EXCEEDS	389		362		10	
50 PERCENT EXCEEDS	5.7		5.9		1.4	
90 PERCENT EXCEEDS	3.9		4.1		.14	

b Diversion, in acre-feet, through Woodleaf Powerplant, provided by Oroville-Wyandotte Irrigation District.

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA

LOCATION.--Lat 39°33'05", long 121°12'30", in SE 1/4 NE 1/4 sec.32, T.20 N., R.7 E., Butte County, Hydrologic Unit 18020123, Plumas National Forest, on right bank 500 ft downstream from Forbestown Dam, 0.4 mi upstream from Oroleve Creek, and 4.0 mi northeast of Forbestown.

DRAINAGE AREA.--87.5 mi^2.

PERIOD OF RECORD.--July 1962 to current year. Records for Forbestown Powerplant from February 1963 to September 1966 in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 1,690 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Little Grass Valley Reservoir (station 11395020), Sly Creek Reservoir (station 11395400), and smaller reservoirs. Water from North Yuba River basin is imported through Slate Creek Tunnel (station 11413250) to Sly Creek Reservoir. Oroville-Wyandotte Canal (station 11395500) diverts upstream from station. Tunnel 600 ft upstream from station diverts most flow through Forbestown Powerplant (station 11396290) except fishwater releases and uncontrolled spill over Forbestown Dam. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,800 ft^3/s, Jan. 1, 1997, gage height, 17.64 ft, from rating curve extended above 5,400 ft^3/s on basis of flow-over-dam measurement of peak flow; minimum daily, 0.6 ft^3/s, Apr. 4, 1963.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	38	54	17300	430	11	11	11	12	11	11	11
2	38	336	44	14000	513	11	11	11	12	11	11	11
3	37	167	169	6810	606	11	11	11	12	11	11	11
4	37	148	427	3910	589	11	11	11	12	11	11	10
5	37	178	508	2780	518	11	11	11	12	11	11	10
6	37	202	641	2160	464	11	11	11	12	11	11	10
7	45	137	594	1860	395	11	7.8	11	12	11	11	10
8	65	125	577	1670	377	11	5.9	11	12	12	10	11
9	36	28	653	1530	365	11	6.1	11	12	12	10	11
10	61	28	1490	1140	356	11	6.1	11	12	12	11	11
11	11	31	1440	275	349	11	6.1	11	11	11	11	11
12	11	28	1330	100	338	90	6.0	11	11	11	11	11
13	20	28	1160	146	330	11	5.8	11	11	11	11	11
14	35	28	686	432	322	11	5.9	11	11	11	11	11
15	164	29	598	533	316	11	e6.1	11	11	11	10	10
16	147	31	573	507	309	11	e5.2	11	11	11	10	10
17	189	69	562	214	311	11	e5.4	11	11	11	10	28
18	247	106	550	203	301	11	5.9	12	11	11	10	11
19	136	74	579	136	297	11	5.9	12	11	11	11	11
20	36	71	849	156	283	13	5.9	11	11	11	11	11
21	38	51	909	178	292	11	5.9	11	11	11	11	11
22	11	80	908	656	289	11	e5.9	11	11	11	11	11
23	25	63	891	597	283	11	e5.9	11	11	11	11	11
24	19	50	869	390	279	11	e5.9	11	11	11	11	11
25	40	45	852	885	262	11	e6.8	11	11	11	10	11
26	37	65	1020	1730	37	10	5.9	11	11	11	10	11
27	36	39	1360	1000	12	11	5.3	12	11	11	10	11
28	36	38	1390	804	11	11	5.4	11	11	11	11	11
29	52	37	2000	671	---	11	5.2	12	11	11	11	11
30	50	36	4530	534	---	11	9.4	11	11	11	10	11
31	124	---	10900	535	---	11	---	12	---	11	11	---
TOTAL	1894	2386	39113	63842	9234	421	211.7	346	340	344	331	341
MEAN	61.1	79.5	1262	2059	330	13.6	7.06	11.2	11.3	11.1	10.7	11.4
MAX	247	336	10900	17300	606	90	11	12	12	12	11	28
MIN	11	28	44	100	11	10	5.2	11	11	11	10	10
AC-FT	3760	4730	77580	126600	18320	835	420	686	674	682	657	676
a	0	0	0	20220	36020	31570	10480	9240	13610	24400	25020	8960

e Estimated.

a Diversion, in acre-feet, to Forbestown Powerplant (station 11396290), provided by Oroville–Wyandotte Irrigation District.

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.8	23.6	104	184	177	160	105	99.1	30.8	12.7	11.1	14.2
MAX	520	240	1262	2059	2000	1472	718	990	290	37.1	27.3	120
(WY)	1963	1982	1997	1997	1986	1995	1982	1996	1995	1962	1986	1996
MIN	4.21	3.68	3.37	4.06	4.46	4.47	4.06	4.02	2.90	4.04	3.37	3.84
(WY)	1978	1976	1976	1976	1972	1972	1964	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1962 - 1997	
ANNUAL TOTAL	113869.7		118803.7			
ANNUAL MEAN	311		325		78.8	
HIGHEST ANNUAL MEAN					325	1997
LOWEST ANNUAL MEAN					4.36	1977
HIGHEST DAILY MEAN	10900	Dec 31	17300	Jan 1	17300	Jan 1 1997
LOWEST DAILY MEAN	5.3	Jan 2	5.2	Apr 16	.60	Apr 4 1963
ANNUAL SEVEN-DAY MINIMUM	5.3	Jan 2	5.7	Apr 16	1.7	Mar 25 1980
INSTANTANEOUS PEAK FLOW			21800	Jan 1	21800	Jan 1 1997
INSTANTANEOUS PEAK STAGE			17.64	Jan 1	17.64	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	225900		235600		57110	
TOTAL DIVERSION (AC-FT) a	210300		179500			
10 PERCENT EXCEEDS	855		601		126	
50 PERCENT EXCEEDS	45		11		10	
90 PERCENT EXCEEDS	5.9		10		5.0	

a Diversion, in acre-feet, to Forbestown Powerplant (station 11396290), provided by Oroville–Wyandotte Irrigation District.

11396310 MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'00", long 121°18'20", in SE 1/4 NW 1/4 sec.33, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, on right bank 800 ft downstream from Ponderosa Dam and 3 mi northwest of Forbestown.

PERIOD OF RECORD.--October 1962 to current year.

REVISED RECORDS.--WDR CA-88-4: diversion only.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 975 ft above sea level, from topographic map.

REMARKS.--Canal diverts from South Fork Feather River at Ponderosa Dam. Water is used for power development and irrigation. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 314 ft^3/s, May 13, 1984; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	200	.00	169	255	264	268	220	271	278	282	278
2	.00	189	124	133	255	264	266	220	271	278	282	279
3	.00	201	215	224	255	264	268	220	271	278	282	279
4	.00	199	236	245	257	264	265	205	271	278	282	279
5	54	199	262	245	257	264	268	82	271	278	282	279
6	201	195	261	250	257	264	268	.00	159	278	282	279
7	.00	192	262	259	258	265	268	94	276	279	282	221
8	.00	148	261	260	257	268	268	207	276	281	282	16
9	.00	.00	262	260	258	268	268	221	276	283	282	35
10	.00	.00	262	223	259	268	160	221	278	282	282	38
11	.00	.12	262	255	261	268	269	221	200	283	282	43
12	.00	88	259	263	261	267	269	221	280	280	282	45
13	164	.00	255	264	261	268	269	221	280	278	282	31
14	151	.00	252	264	261	267	269	143	280	257	283	187
15	152	.00	252	264	261	268	272	221	280	280	244	117
16	152	.00	253	264	261	268	251	221	280	281	283	.00
17	151	85	258	263	261	268	221	221	280	282	283	110
18	152	216	262	261	261	268	221	221	278	282	283	205
19	152	218	261	258	261	267	221	221	276	282	230	210
20	51	107	262	257	262	262	221	221	277	282	23	210
21	.00	.00	262	255	264	267	221	221	279	282	96	130
22	.00	.00	261	237	263	267	196	221	279	282	279	16
23	14	91	259	222	264	267	199	221	279	282	147	53
24	.00	201	258	180	264	267	181	221	279	282	26	59
25	51	68	258	201	264	269	181	221	278	282	151	181
26	152	.00	256	201	263	272	197	221	249	282	279	142
27	152	.00	252	214	264	269	220	221	282	282	279	30
28	116	31	250	256	230	268	220	221	282	282	279	2.0
29	.00	70	251	259	---	271	221	244	282	282	278	.00
30	139	3.3	247	259	---	269	220	271	281	283	279	.00
31	164	---	243	257	---	267	---	271	---	282	279	---
TOTAL	2168.00	2701.42	7518.00	7422	7255	8277	7106	6376.00	8101	8683	7667	3754.00
MEAN	69.9	90.0	243	239	259	267	237	206	270	280	247	125
MAX	201	218	262	264	264	272	272	271	282	283	283	279
MIN	.00	.00	.00	133	230	262	160	.00	159	257	23	.00
AC-FT	4300	5360	14910	14720	14390	16420	14090	12650	16070	17220	15210	7450
a	2750	4640	14240	14480	14050	15590	12970	10710	14320	15340	13260	5840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

MEAN	172	189	195	194	209	211	207	213	232	243	243	184
MAX	263	269	254	257	262	267	276	276	283	284	289	270
(WY)	1980	1992	1981	1986	1996	1997	1987	1992	1992	1996	1986	1980
MIN	26.6	20.9	18.1	16.6	10.5	16.8	14.5	22.2	51.9	49.3	43.0	25.0
(WY)	1987	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	83978.42		77028.42			
ANNUAL MEAN	229		211		208	
HIGHEST ANNUAL MEAN					256	1996
LOWEST ANNUAL MEAN					52.2	1977
HIGHEST DAILY MEAN	291	Jul 11	283	Jul 9	314	May 13 1984
LOWEST DAILY MEAN	.00	Sep 29	.00	Oct 1	.00	Nov 21 1962
ANNUAL SEVEN-DAY MINIMUM	7.7	Sep 29	13	Nov 9	.00	Dec 6 1976
ANNUAL RUNOFF (AC-FT)	166600		152800		150800	
10 PERCENT EXCEEDS	286		282		276	
50 PERCENT EXCEEDS	265		258		244	
90 PERCENT EXCEEDS	81		25		46	

a Discharge, in acre-feet, through Kelly Ridge Powerplant (station 11396329), provided by Oroville–Wyandotte Irrigation District.

11396330 BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'15", long 121°27'16", in NE 1/4 SW 1/4 sec.18, T.19 N., R.5 E., Butte County, Hydrologic Unit 18020124, on left bank 400 ft downstream from outlet at Miners Ranch Dam and 5 mi east of Oroville.

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 815 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Miners Ranch Reservoir, capacity, 912 acre-ft. Canal completed in November 1962. Water is used for irrigation. See schematic diagram of South Fork Feather River basin.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft^3/s, Aug. 17-20, 1963; no flow for several days in 1965, 1969.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	11	8.2	3.7	5.0	6.2	8.2	15	18	18	20	19
2	18	10	8.1	2.3	5.0	6.2	8.0	15	18	18	20	19
3	18	10	8.2	2.1	5.0	6.2	8.0	15	18	18	19	19
4	18	10	8.0	2.2	4.9	6.2	8.1	15	18	18	19	19
5	18	10	8.0	2.3	4.8	6.2	8.3	15	18	18	19	19
6	19	9.2	8.2	4.1	4.8	6.1	8.7	15	18	18	19	19
7	18	8.0	8.2	5.3	4.8	7.4	8.5	15	18	19	20	19
8	18	8.4	8.2	5.3	5.2	8.3	8.5	15	18	19	22	19
9	18	8.3	8.2	5.3	5.5	8.0	8.5	15	18	18	23	19
10	18	8.5	7.1	5.0	5.5	8.0	8.4	15	18	19	23	19
11	18	8.2	6.2	4.8	5.5	8.0	8.4	15	19	19	23	19
12	18	8.3	6.2	4.8	5.5	8.0	8.4	15	19	19	22	19
13	19	8.4	6.2	4.8	5.5	8.0	8.5	16	19	19	20	19
14	19	8.1	6.2	4.8	5.5	8.0	9.1	18	19	18	20	19
15	18	8.2	6.2	4.8	5.5	8.1	13	18	19	19	20	19
16	17	8.4	6.2	5.0	5.5	8.2	15	18	18	19	20	19
17	15	8.4	6.2	5.0	5.5	8.2	15	18	18	19	20	19
18	15	7.0	6.2	5.0	6.2	8.2	15	18	18	20	20	20
19	15	5.9	6.2	5.0	7.2	8.2	15	18	18	20	19	20
20	15	5.8	6.2	5.0	7.7	8.2	15	18	19	20	19	20
21	15	6.1	6.2	5.0	6.7	8.2	15	18	19	20	19	20
22	14	6.1	6.2	4.7	5.8	8.2	15	18	19	20	19	19
23	12	6.2	6.2	3.5	6.2	8.2	15	18	19	20	19	19
24	10	6.2	6.2	3.4	6.2	8.2	15	18	18	20	19	20
25	10	7.2	6.2	3.1	6.3	8.2	15	18	18	20	19	18
26	10	8.1	6.2	3.3	6.3	8.2	15	18	19	20	19	18
27	10	8.0	6.2	3.1	6.2	8.2	15	18	19	19	19	18
28	10	8.0	6.1	3.5	6.2	8.2	15	18	18	19	19	17
29	10	8.1	6.1	4.1	---	8.2	15	18	18	19	19	18
30	10	8.2	3.7	3.6	---	8.2	15	18	18	20	19	19
31	11	---	2.3	3.9	---	8.2	---	19	---	20	19	---
TOTAL	472	242.3	204.0	127.8	160.0	240.1	355.6	521	551	592	616	569
MEAN	15.2	8.08	6.58	4.12	5.71	7.75	11.9	16.8	18.4	19.1	19.9	19.0
MAX	19	11	8.2	5.3	7.7	8.3	15	19	19	20	23	20
MIN	10	5.8	2.3	2.1	4.8	6.1	8.0	15	18	18	19	17
AC-FT	936	481	405	253	317	476	705	1030	1090	1170	1220	1130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

MEAN	16.9	7.85	5.39	4.49	4.11	4.40	8.70	16.4	22.2	24.6	24.7	22.3
MAX	29.7	14.3	11.2	12.0	7.68	8.27	20.3	27.8	42.0	56.4	53.4	36.2
(WY)	1965	1972	1975	1963	1980	1988	1970	1970	1963	1963	1963	1963
MIN	5.42	1.47	.035	.30	.25	.20	2.65	6.41	11.7	16.0	17.1	14.4
(WY)	1985	1969	1966	1966	1966	1966	1983	1995	1993	1982	1992	1993

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	4379.4		4650.8			
ANNUAL MEAN	12.0		12.7		13.3	
HIGHEST ANNUAL MEAN					18.0	1977
LOWEST ANNUAL MEAN					8.95	1993
HIGHEST DAILY MEAN	19	Jul 5	23	Aug 9	65	Aug 17 1963
LOWEST DAILY MEAN	2.3	Dec 31	2.1	Jan 3	.00	Jan 7 1965
ANNUAL SEVEN-DAY MINIMUM	4.1	Feb 4	2.7	Dec 30	.00	Jan 7 1965
ANNUAL RUNOFF (AC-FT)	8690		9220		9650	
10 PERCENT EXCEEDS	19		19		28	
50 PERCENT EXCEEDS	10		15		11	
90 PERCENT EXCEEDS	6.0		5.0		2.9	

11396395 SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS, CA

LOCATION.--Lat 39°33'44", long 121°16'46", in SE 1/4 NE 1/4 sec.27, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, on left bank at Kanaka Diversion Measuring Weir, 2.5 mi upstream from confluence with South Fork Feather River, and 2.5 mi southwest of Feather Falls.

DRAINAGE AREA.--15.5 mi^2.

PERIOD OF RECORD.--March 1989 to current year.

GAGE.--Water-stage recorder and 120 degree V-notch weir. Elevation of gage is 1,660 ft above sea level, from topographic map.

REMARKS.--Water from creek is diverted upstream from gage to Kanaka Powerplant (station 11396396). See schematic diagram of South Fork Feather River basin. See station 11396397 for records of combined discharge of creek and powerplant.

COOPERATION.--Records provided by STS Hydro Power Ltd., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Creek only, maximum discharge, 1,500 ft^3/s, Jan. 1, 1997, gage height, 4.40 ft; minimum daily, 1.2 ft^3/s, Aug. 21, 22, 27, 1992, Aug. 13, 1994.
Combined flow: Maximum discharge, 1,510 ft^3/s, Jan. 1, 1997; minimum daily, 1.2 ft^3/s, Aug 21, 22, 27, 1992, Aug. 13, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.2	5.5	e1100	76.7	13.5	13.6	10.2	8.4	e11	6.5	e5.7
2	5.6	6.9	5.2	425	70.6	14.9	13.6	8.3	8.4	e9.8	6.4	e5.8
3	5.6	6.8	5.1	179	65.7	13.4	13.5	8.5	8.4	e9.6	6.4	e5.9
4	5.5	6.8	5.4	132	49.7	13.3	13.5	8.4	8.6	e9.2	6.3	e5.7
5	5.4	6.8	60.1	101	35.1	13.2	13.5	8.3	8.3	e9.1	6.3	e5.6
6	5.3	6.7	8.8	83.5	30.7	13.2	13.4	8.3	8.3	e9.0	6.2	e5.4
7	5.2	6.6	5.3	59.1	28.3	13.3	13.4	8.3	8.3	e8.8	6.1	e5.3
8	5.1	6.6	5.1	37.2	26.0	13.4	16.1	8.3	8.4	e8.6	6.3	e5.2
9	5.1	6.6	29.8	31.7	21.8	13.2	13.8	8.2	8.4	e8.4	5.9	e5.2
10	5.1	6.6	154	27.5	18.9	13.4	13.7	8.2	8.4	e8.3	5.8	e5.2
11	5.1	6.6	58.7	24.2	16.6	13.5	13.7	8.2	8.3	e8.2	6.1	e5.2
12	5.2	6.5	51.3	21.2	14.9	13.4	13.6	8.4	8.3	e8.1	6.0	e5.3
13	5.3	6.5	35.6	25.2	13.4	13.5	13.6	8.5	8.2	e8.0	5.8	e5.3
14	5.3	6.6	8.0	13.8	14.0	13.5	13.6	8.5	8.2	e7.9	5.7	e5.7
15	5.2	6.7	6.3	13.9	14.6	13.5	13.6	8.5	8.2	e7.9	5.6	e7.8
16	5.2	7.0	5.7	11.2	14.4	15.2	13.6	8.5	9.1	e7.7	5.5	e6.0
17	5.2	7.5	5.5	9.1	14.7	15.6	13.6	8.5	9.2	e7.7	5.5	e5.8
18	6.5	14.1	5.3	8.1	14.1	13.7	14.0	8.5	8.9	e7.6	5.6	e5.9
19	6.4	7.4	5.3	7.8	14.0	13.5	14.8	8.5	9.3	e7.6	5.6	e5.8
20	6.1	5.5	5.3	11.8	13.9	13.4	13.7	8.5	9.1	7.5	7.1	e5.5
21	5.9	5.8	9.6	33.5	13.7	13.7	13.7	8.5	9.2	7.4	6.7	e5.4
22	5.8	6.3	11.9	198	13.6	13.8	13.7	8.5	9.3	7.2	6.1	e5.3
23	5.9	5.6	9.8	172	13.5	13.7	13.8	8.5	11.0	7.1	6.0	e5.2
24	6.7	5.5	6.4	112	21.3	13.7	13.6	8.5	e11	7.2	6.1	e5.1
25	6.9	5.5	5.3	259	13.5	13.6	14.1	8.5	e11	7.1	5.9	e5.0
26	6.6	5.3	71.5	329	13.6	13.6	13.5	8.4	e10	6.9	5.8	e5.0
27	6.2	5.2	142	153	13.6	13.6	13.6	8.4	e10	6.9	5.7	e5.0
28	6.1	5.1	95.8	130	13.6	13.6	13.5	8.4	e9.9	6.9	5.6	e4.9
29	10.6	5.1	157	104	---	13.6	13.5	8.4	e9.7	6.8	5.6	e4.8
30	11.9	5.2	269	88.9	---	13.6	13.5	8.4	e9.6	6.7	e5.5	e4.9
31	7.8	---	353	81.6	---	13.7	---	8.4	---	6.6	e5.5	---
TOTAL	189.3	196.6	1602.6	3983.3	684.5	423.8	412.4	262.5	271.4	246.8	185.2	163.9
MEAN	6.11	6.55	51.7	128	24.4	13.7	13.7	8.47	9.05	7.96	5.97	5.46
MAX	12	14	353	1100	77	16	16	10	11	11	7.1	7.8
MIN	5.1	5.1	5.1	7.8	13	13	13	8.2	8.2	6.6	5.5	4.8
AC-FT	375	390	3180	7900	1360	841	818	521	538	490	367	325

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

MEAN	4.36	5.17	12.6	37.6	20.7	26.3	16.0	13.6	7.54	6.29	4.24	3.72
MAX	7.19	7.32	51.7	128	40.2	92.0	37.5	45.5	9.05	13.7	8.09	7.11
(WY)	1990	1990	1997	1997	1996	1995	1995	1995	1997	1995	1995	1995
MIN	2.36	3.44	4.34	4.44	5.11	12.1	9.83	6.40	4.24	2.85	1.55	1.33
(WY)	1995	1993	1991	1991	1991	1994	1994	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	6262.3		8622.3			
ANNUAL MEAN	17.1		23.6		13.3	
HIGHEST ANNUAL MEAN					28.2	1995
LOWEST ANNUAL MEAN					6.29	1992
HIGHEST DAILY MEAN	353	Dec 31	1100	Jan 1	1100	Jan 1 1997
LOWEST DAILY MEAN	5.0	Jan 11	4.8	Sep 29	1.2	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	5.1	Jan 8	5.0	Sep 24	1.3	Aug 21 1992
INSTANTANEOUS PEAK FLOW			1500	Jan 1	1500	Jan 1 1997
INSTANTANEOUS PEAK STAGE			4.40	Jan 1	4.40	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	12420		17100		9610	
10 PERCENT EXCEEDS	34		31		16	
50 PERCENT EXCEEDS	8.5		8.4		6.8	
90 PERCENT EXCEEDS	5.4		5.3		2.6	

e Estimated.

11396397 SUCKER RUN AT KANAKA DIVERSION, NEAR FEATHER FALLS, CA—Continued

SUCKER RUN AND KANAKA HYDROELECTRIC PROJECT POWERPLANT,

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.2	17	e1110	114	36	27	21	14	e11	6.5	e5.7
2	5.6	6.9	13	437	108	46	26	21	14	e9.8	6.4	e5.8
3	5.6	6.8	11	189	103	39	26	20	15	e9.6	6.4	e5.9
4	5.5	6.8	13	132	87	37	25	20	22	e9.2	6.3	e5.7
5	5.4	6.8	97	101	72	35	25	20	17	e9.1	6.3	e5.6
6	5.3	6.7	37	84	68	34	24	19	16	e9.0	6.2	e5.4
7	5.2	6.6	23	76	66	34	24	19	14	e8.8	6.1	e5.3
8	5.1	6.6	19	74	63	33	27	19	14	e8.6	6.3	e5.2
9	5.1	6.6	57	69	59	32	26	19	13	e8.4	5.9	e5.2
10	5.1	6.6	179	65	56	32	25	18	13	e8.3	5.8	e5.2
11	5.1	6.6	96	61	54	32	24	18	13	e8.2	6.1	e5.2
12	5.2	6.5	89	57	52	31	24	18	13	e8.1	6.0	e5.3
13	5.3	6.5	73	58	50	31	24	18	13	e8.0	5.8	e5.3
14	5.3	6.6	42	51	49	31	23	18	13	e7.9	5.7	e5.7
15	5.2	6.7	32	51	48	31	24	17	12	e7.9	5.6	e7.8
16	5.2	7.0	27	48	47	38	23	17	12	e7.7	5.5	e6.0
17	5.2	21	24	46	48	43	23	17	12	e7.7	5.5	e5.8
18	6.5	34	23	44	45	33	24	16	11	e7.6	5.6	e5.9
19	6.4	25	21	43	44	32	33	16	12	e7.6	5.6	e5.8
20	6.1	21	21	48	43	31	26	16	11	7.5	7.1	e5.5
21	5.9	16	42	71	42	30	24	15	11	7.4	6.7	e5.4
22	5.8	29	47	225	41	30	24	15	11	7.2	6.1	e5.3
23	5.9	19	45	200	40	29	27	19	11	7.1	6.0	e5.2
24	6.7	14	35	135	39	29	24	20	e11	7.2	6.1	e5.1
25	6.9	11	30	277	38	28	23	17	e11	7.1	5.9	e5.0
26	6.6	10	98	346	38	28	22	16	e10	6.9	5.8	e5.0
27	6.2	9.0	168	185	38	27	21	16	e10	6.9	5.7	e5.0
28	6.1	8.2	133	165	37	27	22	16	e9.9	6.9	5.6	e4.9
29	11	8.1	184	141	---	27	22	15	e9.7	6.8	5.6	e4.8
30	12	8.0	281	126	---	27	21	15	e9.6	6.7	e5.5	e4.9
31	7.8	---	365	119	---	27	---	14	---	6.6	e5.5	---
TOTAL	189.8	340.8	2342	4834	1589	1000	733	545	378.2	246.8	185.2	163.9
MEAN	6.12	11.4	75.5	156	56.8	32.3	24.4	17.6	12.6	7.96	5.97	5.46
MAX	12	34	365	1110	114	46	33	21	22	11	7.1	7.8
MIN	5.1	6.5	11	43	37	27	21	14	9.6	6.6	5.5	4.8
AC-FT	376	676	4650	9590	3150	1980	1450	1080	750	490	367	325

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

MEAN	4.36	5.91	18.7	51.1	36.1	40.3	27.2	21.9	12.3	6.92	4.41	3.72
MAX	7.19	11.4	75.5	156	65.6	113	72.1	71.3	28.7	16.5	9.63	7.11
(WY)	1990	1997	1997	1997	1996	1995	1995	1995	1995	1995	1995	1995
MIN	2.36	3.44	4.34	4.52	5.22	14.3	10.1	6.40	4.27	2.85	1.55	1.33
(WY)	1995	1993	1991	1991	1991	1994	1994	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	11017.5		12547.7			
ANNUAL MEAN	30.1		34.4		19.6	
HIGHEST ANNUAL MEAN					41.5	1995
LOWEST ANNUAL MEAN					7.86	1994
HIGHEST DAILY MEAN	365	Dec 31	1110	Jan 1	1110	Jan 1 1997
LOWEST DAILY MEAN	5.1	Oct 8	4.8	Sep 29	1.2	Aug 21 1992
ANNUAL SEVEN-DAY MINIMUM	5.2	Oct 6	5.0	Sep 24	1.3	Aug 21 1992
INSTANTANEOUS PEAK FLOW			1510	Jan 1	1510	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	21850		24890		14170	
10 PERCENT EXCEEDS	68		68		43	
50 PERCENT EXCEEDS	20		16		7.8	
90 PERCENT EXCEEDS	5.9		5.5		2.6	

e Estimated.

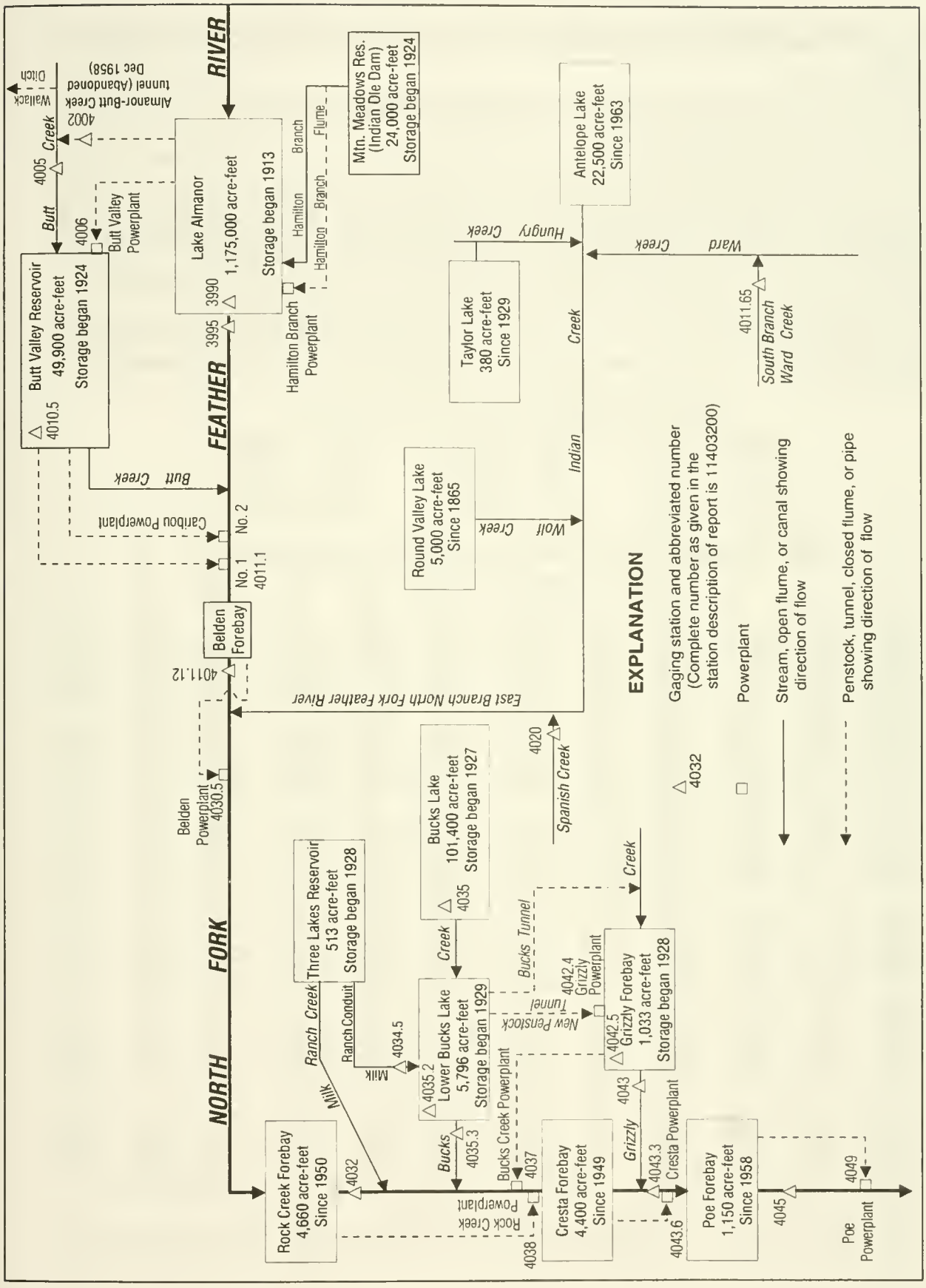

Figure 29. Diversions and storage in North Fork Feather River basin.

11399000 LAKE ALMANOR AT PRATTVILLE, CA

LOCATION.--Lat 40°12'46", long 121°09'43", in SW 1/4 NE 1/4 sec.11, T.27 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Lassen National Forest, at intake tower to Butt Valley Tunnel at Prattville, 4.7 mi northwest of Lake Almanor Dam, and 5.6 mi northwest of Canyondam.

DRAINAGE AREA.--491 mi^2.

PERIOD OF RECORD.--July 1913 to current year. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937-60. Prior to October 1964, records published as usable contents.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Nonrecording gage read once daily. Datum of gage is 10.23 ft below sea level (levels by Pacific Gas & Electric Co.). Prior to June 1, 1965, nonrecording gage at site 4.7 mi southeast at same datum.

REMARKS.--Lake is formed by earthfill dam; storage began in July 1913; dam raised to gage height 4,455 ft in 1917 and 4,515 ft in 1927. Usable capacity, 1,174,887 acre-ft between gage heights 4,422 ft, invert of outlet, and 4,495.5 ft, maximum storage limit. Dead storage, 8,948 acre-ft. Water is diverted by tunnel and penstock to Butt Valley Powerplant (station 11400600) and then is used for power development in the North Fork Feather River. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,142,960 acre-ft, June 8, 1982, gage height, 4,494.00 ft; minimum, 5,230 acre-ft, Feb. 5, 1918, gage height, 4,416.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 968,680 acre-ft, June 12, gage height, 4,487.39 ft; minimum, 793,925 acre-ft, Dec. 3, gage height, 4,480.28 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on surveys by Pacific Gas & Electric Co. in 1924 and 1926)

4,422	8,948	4,434	49,510	4,460	376,686
4,424	10,067	4,437	74,189	4,470	565,519
4,426	11,260	4,440	101,869	4,480	787,304
4,428	13,480	4,445	156,414	4,490	1,036,269
4,430	21,200	4,450	220,848	4,495.5	1,183,835
4,432	34,173	4,455	94,531		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	896296	836695	795109	914941	915939	841039	881245	934236	967405	952412	921189	855092
2	894811	834767	794873	943561	915440	841764	883213	935242	967150	951652	920939	854120
3	892832	831878	793925	959260	912696	840314	883952	936753	966640	951146	920688	853148
4	891350	830194	796531	965875	910951	838625	884937	938264	966385	949880	917688	853634
5	889868	828511	798429	965875	908211	837901	886662	939776	966130	949121	916689	852177
6	888141	826350	799140	965365	906221	836454	887155	941290	965620	948615	914192	850721
7	886662	823471	799615	962819	903984	836213	889128	941542	965875	947856	911449	849024
8	884690	821553	800565	960276	901005	837418	890362	943308	965620	946845	908958	847813
9	883213	819159	804843	957737	898773	838142	891844	944823	966640	946087	906469	845875
10	880754	818202	812229	955453	896048	838625	892338	946592	967660	945329	904232	843456
11	879034	816289	816289	952665	893574	839590	893080	948615	968170	943813	902990	841281
12	876824	814138	818441	950133	891844	840314	894069	950386	968680	943056	901253	839107
13	874616	811990	821074	945076	887648	841522	895553	952159	968170	942046	899269	837177
14	872166	809605	822272	940533	885183	842489	896296	953425	967150	941037	897286	836454
15	870208	807223	822752	937257	882475	843456	897286	954946	967150	940029	895306	834767
16	868496	805557	822752	934236	880508	847570	898525	955961	966895	939020	892585	832359
17	866053	805557	822752	932727	877315	849509	899764	957229	965875	937508	890362	831396
18	865320	805319	822752	928708	874371	851207	902245	958245	965365	937005	888634	829953
19	863125	806985	822752	925697	870942	852905	905723	959260	964601	935746	887401	828031
20	859957	806985	822991	923442	867274	854606	908709	960022	963583	934991	884690	827791
21	857280	806509	823711	922190	864344	856793	912945	960531	962565	933733	883213	826590
22	854849	807461	825870	924194	860931	859226	916189	960531	961802	932476	880754	825390
23	852905	806985	824670	921940	858739	861418	918438	963074	960531	931470	877806	823711
24	852177	806033	823950	920188	854363	863368	921189	964346	959768	930465	875107	822752
25	851207	804843	823471	923192	851207	865809	922941	965111	959006	928959	872411	821314
26	848782	803178	828031	922941	847328	868252	925196	965620	957483	928206	869230	819638
27	845875	801752	830194	921689	846844	870698	926951	966385	956468	927202	866297	818680
28	842972	799853	834526	921189	843456	872656	929210	966895	954946	926199	863612	816289
29	843456	798429	838142	920438	---	874862	930214	966895	953425	924945	861418	815572
30	841764	797006	850236	918938	---	877069	932224	966895	953172	923692	858009	813661
31	838866	---	873391	917938	---	879279	---	966895	---	922440	856307	---
MAX	896296	836695	873391	965875	915939	879279	932224	966895	968680	952412	921189	855092
MIN	838866	797006	793925	914941	843456	836213	881245	934236	953172	922440	856307	813661
a	4482.16	4480.41	4483.58	4485.38	4482.35	4483.82	4485.95	4487.32	4486.78	4485.56	4482.88	4481.11
b	-58668	-41860	+76385	+44547	-74482	+35823	+52945	+34671	-13723	-30732	-66133	-42646

CAL YR 1996 MAX 1129715 MIN 793925 b -735
WTR YR 1997 MAX 968680 MIN 793925 b -83873

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA

LOCATION.--Lat 40°10'06", long 121°05'31", in NE 1/4 SW 1/4 sec.28, T.27 N., R.8 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.4 mi downstream from Almanor Dam, 4.5 mi southeast of Prattville, and 9 mi upstream from Butt Creek.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--June 1905 to current year. Published as "below Prattville" prior to 1911. No record for January, February, or March 1911. Estimated mean discharge for water year 1911 published in WSP 1315-A.

REVISED RECORDS.--WSP 1245: 1951 (yearly summaries). WSP 1285: 1952 (yearly summaries). WDR CA-88-4: 1987 (monthly and yearly totals for Butt Valley Powerplant).

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 4,379.86 ft above sea level. Prior to Oct. 1, 1936, nonrecording gages or water-stage recorders at several sites within 0.5 mi of present site at various datums.

REMARKS.--Flow regulated since 1913 by Lake Almanor (station 11399000) 0.5 mi upstream and since 1924 by Mountain Meadows Reservoir, capacity, 24,000 acre-ft, 12 mi upstream on Hamilton Branch. Water diverted from Lake Almanor to Butt Valley Reservoir (station 11401050) through old Almanor-Butt Creek Tunnel from May 1921 to December 1958, for use at Caribou Powerplant. Old tunnel closed Dec. 30, 1958, and diversion began Dec. 31, 1958, to Butt Valley Powerplant (station 11400600) at upstream end of Butt Valley Reservoir. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft^3/s, Mar. 19, 1907, before construction of dam, gage height, 16.2 ft, at former site, from rating curve extended above 3,700 ft^3/s; no flow at times during 1914, 1919, 1923.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	392	692	417	322	1930	722	35	37	36	37	37	40
2	394	683	232	458	1940	722	37	37	36	37	37	40
3	394	680	72	1360	1930	705	37	37	36	37	37	40
4	393	677	62	2120	1930	708	37	37	37	37	37	40
5	391	676	38	2140	1920	694	37	37	37	37	53	40
6	391	669	38	2130	1920	483	37	37	37	37	586	39
7	390	661	38	2120	1920	60	37	37	37	37	708	39
8	389	659	38	2110	1910	58	37	37	37	37	706	39
9	387	547	38	2090	1910	58	37	37	37	37	515	39
10	396	410	39	2080	1900	58	37	37	37	37	366	39
11	402	510	39	2070	1890	49	37	37	37	38	365	39
12	402	692	39	2060	1870	38	37	37	37	38	364	39
13	401	692	39	2050	1850	38	37	37	37	37	364	39
14	399	694	39	2030	1840	38	37	37	37	37	363	39
15	397	686	38	2030	1840	38	37	37	37	37	364	39
16	395	677	38	2020	1820	38	37	37	37	37	362	39
17	394	675	38	2010	1820	38	37	37	37	37	361	39
18	337	666	38	2010	1820	37	37	37	37	37	360	39
19	572	420	38	2010	1820	37	37	37	37	37	360	39
20	706	295	38	2010	1810	37	37	37	37	37	359	39
21	698	293	38	2000	1800	37	37	37	37	37	358	39
22	694	292	38	2000	1790	37	37	33	37	37	463	39
23	690	292	38	2000	1780	37	37	17	37	37	698	39
24	683	292	38	1980	1760	37	37	23	38	37	695	39
25	678	365	38	1980	1750	36	37	22	38	37	693	39
26	676	504	39	1970	1740	36	37	23	36	37	691	39
27	672	500	39	1970	1490	36	37	23	37	37	688	38
28	669	499	39	1960	705	36	37	23	37	37	687	38
29	667	496	41	1950	---	35	37	28	37	37	684	38
30	678	495	42	1950	---	35	37	37	37	37	682	38
31	697	---	62	1940	---	35	---	37	---	37	384	---
TOTAL	15824	16389	1848	58930	50405	5053	1108	1043	1108	1149	13427	1171
MEAN	510	546	59.6	1901	1800	163	36.9	33.6	36.9	37.1	433	39.0
MAX	706	694	417	2140	1940	722	37	37	38	38	708	40
MIN	337	292	38	322	705	35	35	17	36	37	37	38
AC-FT	31390	32510	3670	116900	99980	10020	2200	2070	2200	2280	26630	2320
a	63520	58420	47420	57820	43260	31980	19450	24650	53920	60660	62810	71180

a Diversion, in acre-feet, to Butt Valley Powerplant, provided by Pacific Gas & Electric Co.

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1958, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	498	393	371	282	349	272	318	327	349	479	602	569
MAX	1607	1414	1418	1489	2124	1609	1852	2206	1065	1280	1755	1762
(WY)	1931	1931	1938	1946	1938	1929	1938	1938	1935	1929	1929	1929
MIN	3.80	3.32	3.41	3.20	3.20	3.61	2.63	2.02	2.11	8.02	3.72	3.16
(WY)	1942	1940	1937	1944	1944	1944	1939	1939	1939	1943	1937	1937

SUMMARY STATISTICS	WATER YEARS 1925 - 1958	
ANNUAL TOTAL		
ANNUAL MEAN	401	
HIGHEST ANNUAL MEAN	1061	1929
LOWEST ANNUAL MEAN	27.1	1937
HIGHEST DAILY MEAN	2670	May 17 1942
LOWEST DAILY MEAN	.50	Apr 28 1949
ANNUAL SEVEN-DAY MINIMUM	.87	Apr 25 1949
INSTANTANEOUS PEAK FLOW	2710	May 22 1941
INSTANTANEOUS PEAK STAGE	6.95	May 22 1941
ANNUAL RUNOFF (AC-FT)	290600	
10 PERCENT EXCEEDS	1060	
50 PERCENT EXCEEDS	60	
90 PERCENT EXCEEDS	4.4	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	47.8	45.3	32.9	82.3	80.8	37.4	42.2	50.6	69.7	64.7	60.9	45.2
MAX	510	546	59.6	1901	1800	163	293	352	660	688	596	415
(WY)	1997	1997	1997	1997	1997	1997	1983	1996	1996	1996	1996	1996
MIN	17.3	8.65	7.47	8.67	10.0	9.90	10.1	15.7	16.0	15.4	14.9	15.0
(WY)	1978	1960	1960	1960	1962	1964	1964	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1960 - 1997	
ANNUAL TOTAL	121451		167455			
ANNUAL MEAN	332		459		54.8	
HIGHEST ANNUAL MEAN					459	1997
LOWEST ANNUAL MEAN					22.3	1962
HIGHEST DAILY MEAN	726	May 27	2140	Jan 5	2140	Jan 5 1997
LOWEST DAILY MEAN	33	Jan 1	17	May 23	2.9	Jan 9 1960
ANNUAL SEVEN-DAY MINIMUM	34	Jan 1	23	May 23	4.7	Oct 26 1966
INSTANTANEOUS PEAK FLOW			2160	Jan 5	10000	Mar 19 1907
INSTANTANEOUS PEAK STAGE			6.67	Jan 5	16.20	Mar 19 1907
ANNUAL RUNOFF (AC-FT)	240900		332100		39710	
ANNUAL DIVERSION (AC-FT) a	568000		595100			
10 PERCENT EXCEEDS	700		1910		40	
50 PERCENT EXCEEDS	392		39		36	
90 PERCENT EXCEEDS	36		37		32	

a Diversion, in acre-feet, to Butt Valley Powerplant, provided by Pacific Gas & Electric Co.

11400500 BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA

LOCATION.--Lat 40°11'14", long 121°11'13", in NE 1/4 NW 1/4 sec.22, T.27 N., R.7 E., Plumas County, Hydrologic Unit 18020121, on right bank 500 ft downstream from outlet of old Almanor-Butt Creek Tunnel, and 2.2 mi southwest of Prattville.

DRAINAGE AREA.--69.3 mi^2.

PERIOD OF RECORD.--October 1936 to September 1959, October 1964 to current year. Published as "below tunnel No. 1" 1938-40. Records for water years 1937-38 published in WSP 1515. Records prior to 1964 not equivalent owing to inflow from Almanor-Butt Creek Tunnel.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,300 ft above sea level, from topographic map. Prior to Oct. 5, 1937, at site 200 ft downstream at datum 4 ft lower.

REMARKS.--No regulation upstream from station. Howell-Bunger valve in conduit from Lake Almanor (station 11399000) to Butt Valley Powerplant (station 11400600) is opened for short periods several times a year, causing sharp peaks. Wallack Ditch upstream from station diverts about 3 ft^3/s during each irrigation season into Yellow Creek basin. Some inflow 500 ft upstream that is the leakage from the abandoned Almanor-Butt Creek Tunnel at Outlet (station 11400200) is included in the table below. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,080 ft^3/s, Jan. 1, 1997, gage height, 6.22 ft, from rating curve extended above 1,400 ft^3/s; minimum daily, 26 ft^3/s, several days during May and June 1976.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	63	87	2660	172	104	141	124	70	60	51	48
2	51	62	72	2440	162	110	133	117	70	57	51	47
3	51	60	69	959	152	106	130	113	70	56	51	49
4	51	59	92	584	146	103	128	109	80	55	51	48
5	51	58	334	417	139	102	123	107	73	55	50	47
6	51	57	143	315	133	103	121	104	70	55	48	47
7	51	57	116	259	130	106	119	102	69	54	48	47
8	51	57	137	221	126	107	117	101	69	54	49	47
9	51	57	250	198	123	108	115	99	70	54	49	47
10	51	57	382	181	121	113	113	99	71	54	49	47
11	52	57	279	169	118	119	111	98	68	54	49	47
12	52	57	249	156	115	118	109	97	70	53	49	48
13	52	57	249	125	111	115	109	94	74	53	49	48
14	52	57	174	123	111	119	112	92	67	53	49	50
15	53	57	143	134	112	130	111	90	64	52	49	57
16	52	57	131	130	113	149	111	89	63	52	48	50
17	53	75	122	124	119	155	111	87	63	53	48	48
18	63	196	112	119	115	147	122	86	62	52	48	51
19	62	140	107	117	115	145	205	83	56	52	48	49
20	57	121	105	112	114	148	169	81	56	52	55	48
21	57	83	106	112	111	162	203	79	55	51	51	48
22	57	128	103	107	110	168	182	76	55	52	52	48
23	57	102	99	109	108	169	194	86	56	51	50	47
24	62	83	94	107	105	170	163	87	56	51	50	47
25	64	76	93	121	106	171	149	79	55	51	49	47
26	59	71	170	225	109	172	142	76	55	51	48	47
27	58	67	221	200	111	175	139	75	55	51	48	47
28	57	67	223	210	106	166	138	74	55	52	48	47
29	64	65	339	193	---	156	133	74	55	53	48	47
30	65	64	555	172	---	152	127	72	61	52	48	47
31	64	---	1220	165	---	153	---	71	---	51	48	---
TOTAL	1723	2267	6576	11264	3413	4221	4080	2821	1913	1646	1529	1442
MEAN	55.6	75.6	212	363	122	136	136	91.0	63.8	53.1	49.3	48.1
MAX	65	196	1220	2660	172	175	205	124	80	60	55	57
MIN	51	57	69	107	105	102	109	71	55	51	48	47
AC-FT	3420	4500	13040	22340	6770	8370	8090	5600	3790	3260	3030	2860
a	527	494	500	497	478	530	517	541	517	529	520	493

a Inflow, in acre-feet, from Almanor–Butt Creek Tunnel at Outlet, provided by Pacific Gas & Electric Co.

11400500 BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	384	355	367	310	306	339	346	383	378	401	394	390
MAX	995	1073	1419	1098	1025	1050	1178	1176	1092	1038	1019	990
(WY)	1943	1938	1959	1953	1941	1953	1952	1956	1958	1953	1953	1953
MIN	32.3	39.2	39.3	39.4	38.0	47.8	47.5	42.7	32.9	28.7	27.8	29.4
(WY)	1989	1992	1991	1992	1937	1977	1977	1976	1976	1977	1977	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1937 - 1997	
ANNUAL TOTAL	48552		42895			
ANNUAL MEAN	133		118		363	
HIGHEST ANNUAL MEAN					974	1953
LOWEST ANNUAL MEAN					40.1	1977
HIGHEST DAILY MEAN	1220	Dec 31	2660	Jan 1	2830	Feb 17 1986
LOWEST DAILY MEAN	51	Oct 2	47	Sep 2	26	May 26 1976
ANNUAL SEVEN-DAY MINIMUM	51	Oct 2	47	Sep 5	26	May 30 1976
INSTANTANEOUS PEAK FLOW			4080	Jan 1	4080	Jan 1 1997
INSTANTANEOUS PEAK STAGE			6.22	Jan 1	6.22	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	96300		85080		263000	
ANNUAL INFLOW (AC-FT) a	6670		6140			
10 PERCENT EXCEEDS	240		170		991	
50 PERCENT EXCEEDS	85		76		103	
90 PERCENT EXCEEDS	55		49		42	

a Inflow, in acre-feet, from Almanor–Butt Creek Tunnel at Outlet, provided by Pacific Gas & Electric Co.

11401050 BUTT VALLEY RESERVOIR NEAR CARIBOU, CA

LOCATION.--Lat 40°06'59", long 121°08'42", in SE 1/4 SW 1/4 sec.12, T.26 N., R.7 E., Plumas County, Hydrologic Unit 18020121, on center intake tower in Butt Valley Reservoir, 2.5 mi north of Caribou, and 5.4 mi southwest of Canyon Dam.

DRAINAGE AREA.--83.5 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1983-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 10.23 ft below sea level (levels by Great Western Power Co.).

REMARKS.--Lake is formed by earthfill dam. Storage began in 1924. Usable capacity, 49,930 acre-ft between elevations 4,075.9 ft, invert of outlet tunnel, and 4,132.1 ft, crest of spillway. Water is diverted by tunnel and penstock to Caribou Powerplants (station 11401110). Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 52,667 acre-ft, Feb. 18, 19, 1986, elevation, 4,133.80 ft; minimum, 4,284 acre-ft, Mar. 3, 1997, elevation, 4,094.95 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,062 acre-ft, Jan. 8, elevation, 4,114.50 ft; minimum, 4,284 acre-ft, Mar. 3, elevation, 4,094.95 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on surveys by Great Western Power Co. in 1923 and 1924)

4,090	1,754	4,120	31,592
4,100	8,024	4,130	46,591
4,110	18,395	4,137	57,891

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4399	4393	4425	14514	11882	4399	4308	4425	4354	4445	4367	4347
2	4399	4399	4438	17389	11402	4451	4360	4406	4367	4393	4360	4354
3	4425	4386	4399	17661	10898	4284	4367	4380	4354	4334	4373	4341
4	4451	4425	4634	19694	10445	4347	4367	4341	4412	4347	4373	4328
5	4471	4399	4412	20986	9969	4367	4367	4341	4373	4425	4386	4347
6	4471	4412	4386	22088	9543	4380	4393	4314	4296	4399	4393	4744
7	4458	4425	4445	22978	9096	4393	4341	4334	4347	4399	4399	4875
8	4458	4451	4373	24062	8634	4399	4380	4367	4386	4399	4367	5008
9	4438	4458	4640	23970	8181	4341	4367	4393	4386	4380	4354	5594
10	4419	4458	4640	23340	7709	4386	4354	4406	4328	4367	4341	6199
11	4419	4471	4536	22694	7253	4458	4367	4419	4399	4354	4314	7369
12	4445	4412	4399	22088	6825	4432	4373	4406	4341	4341	4360	8199
13	4477	4425	4406	21328	6431	4386	4386	4380	4328	4328	4367	8996
14	4451	4425	4334	20773	6058	4373	4360	4406	4314	4328	4354	9836
15	4425	4432	4373	20240	5686	4406	4334	4380	4308	4360	4347	10692
16	4412	4412	4432	19744	5399	4425	4308	4438	4360	4373	4347	11462
17	4419	4412	4406	19183	5043	4451	4341	4510	4341	4360	4367	11471
18	4458	4425	4393	18614	4399	4334	4425	4406	4341	4386	4373	11521
19	4445	4425	4367	18017	4386	4334	4386	4425	4334	4360	4399	12518
20	4458	4334	4432	17448	4360	4341	4412	4334	4360	4328	4380	12497
21	4432	4406	4445	16888	4347	4360	4432	4341	4386	4380	4360	12487
22	4412	4432	4386	16553	4341	4386	4347	4373	4393	4406	4321	12528
23	4386	4328	4360	15820	4380	4380	4419	4458	4386	4386	4347	12528
24	4425	4321	4399	15606	4380	4367	4373	4438	4386	4360	4341	12528
25	4412	4341	4386	15166	4386	4373	4354	4373	4360	4354	4334	12955
26	4425	4328	4490	14842	4406	4425	4360	4334	4321	4373	4334	13945
27	4406	4386	4354	14328	4412	4354	4380	4360	4321	4380	4360	14919
28	4425	4412	4302	13890	4406	4341	4393	4328	4321	4354	4393	15876
29	4432	4438	4536	13443	---	4347	4354	4406	4296	4341	4393	17004
30	4399	4432	5064	12912	---	4347	4412	4419	4373	4354	4380	18111
31	4393	---	7983	12395	---	4321	---	4419	---	4367	4347	---
MAX	4477	4471	7983	24062	11882	4458	4432	4510	4412	4445	4399	18111
MIN	4386	4321	4302	12395	4341	4284	4308	4314	4296	4328	4314	4328
a	4095.12	4095.18	4099.95	4104.63	4095.14	4095.01	4095.15	4095.16	4095.09	4095.08	4095.05	4109.76
b	0	+39	+3551	+4412	-7989	-85	+91	+7	-46	-6	-20	+13764
c	70000	65710	68830	66590	62580	43350	28290	31320	60330	66530	68230	59930

CAL YR 1996 MAX 49131 MIN 4302 b -24821 c 763300
WTR YR 1997 MAX 24062 MIN 4284 b +13718 c 691700

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Discharge, in acre-feet, through Caribou Powerplants, provided by Pacific Gas & Electric Co.

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA

LOCATION.--Lat 40°04'17", long 121°09'49", in NE 1/4 NW 1/4 sec.35, T.26 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.4 mi downstream from Belden Dam, 0.5 mi upstream from Deadwood Canyon, and 6.4 mi northeast of Belden.

DRAINAGE AREA.--612 mi^2.

PERIOD OF RECORD.--October 1969 to current year. July 1959 to September 1969 in files of Pacific Gas & Electric Co.

REVISED RECORDS.--WDR CA-78-4: 1977 (monthly and yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 2,800.77 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Flow regulated by Butt Valley Reservoir (station 11401050), Lake Almanor (station 11399000), Belden Reservoir, and Mountain Meadows Reservoir, combined capacity, 1,267,000 acre-ft. Diversion to Belden Powerplant (station 11403050) began on Aug. 27, 1969. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft^3/s, Jan. 1, 1997, gage height, 9.17 ft; minimum daily, 2.3 ft^3/s, Oct. 25, 1981.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	63	62	1040	803	68	66	143	142	142	143	123
2	61	63	62	337	799	65	66	143	141	142	143	67
3	61	63	63	491	779	65	66	143	138	142	144	67
4	61	63	64	1370	757	66	65	142	142	142	143	67
5	61	63	64	1690	743	65	66	143	145	143	143	67
6	61	63	63	2050	725	66	66	143	146	142	143	67
7	61	63	63	2060	711	65	65	143	145	142	143	67
8	61	63	63	1630	702	65	65	142	145	142	143	67
9	61	63	64	1540	689	66	66	142	145	142	144	67
10	63	63	64	1970	682	66	66	143	144	141	142	67
11	63	63	63	1940	668	66	66	143	145	143	143	68
12	62	63	63	1920	654	66	66	144	145	144	143	68
13	62	63	63	2000	629	66	65	144	144	144	143	68
14	63	62	63	2130	533	65	66	143	144	144	143	68
15	63	62	64	1610	612	65	66	143	142	144	143	68
16	63	62	61	1040	599	66	66	143	139	144	143	68
17	63	62	60	968	611	66	66	144	139	144	142	68
18	63	62	65	908	606	65	66	142	140	144	143	68
19	63	62	65	803	599	65	66	143	140	144	142	67
20	63	62	65	701	589	66	66	143	139	143	143	68
21	63	62	65	712	577	66	67	144	140	145	143	68
22	63	62	65	727	576	65	67	143	140	144	142	68
23	63	62	65	714	539	66	66	142	139	143	143	68
24	63	62	67	703	524	66	108	142	141	144	143	68
25	63	62	66	774	516	66	142	143	142	144	143	68
26	63	62	67	1050	504	66	141	143	141	143	142	68
27	63	62	68	941	434	66	141	144	140	143	142	68
28	63	62	67	891	86	65	142	144	140	143	143	68
29	63	62	68	867	---	66	141	141	140	143	143	68
30	63	62	69	821	---	66	143	141	140	143	143	68
31	63	---	96	808	---	65	---	143	---	143	142	---
TOTAL	1933	1873	2027	37206	17246	2036	2474	4429	4253	4436	4428	2085
MEAN	62.4	62.4	65.4	1200	616	65.7	82.5	143	142	143	143	69.5
MAX	63	63	96	2130	803	68	143	144	146	145	144	123
MIN	61	62	60	337	86	65	65	141	138	141	142	67
AC-FT	3830	3720	4020	73800	34210	4040	4910	8780	8440	8800	8780	4140
a	95370	93360	72070	133600	121500	54030	30160	27010	52740	58320	84300	58230

a Diversion, in acre-feet, to Belden Powerplant, provided by Pacific Gas & Electric Co.

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	137	149	127	143	115	106	165	172	147	139	135	127
MAX	1414	2487	1664	1200	616	591	743	549	374	199	173	1134
(WY)	1975	1975	1975	1997	1997	1975	1983	1995	1995	1970	1970	1987
MIN	57.8	38.4	45.2	51.6	51.2	50.0	63.1	62.2	56.5	64.2	89.0	61.9
(WY)	1985	1981	1976	1976	1976	1976	1972	1971	1971	1971	1972	1976

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1970 - 1997	
ANNUAL TOTAL	34795		84426			
ANNUAL MEAN	95.1		231		139	
HIGHEST ANNUAL MEAN					745	1975
LOWEST ANNUAL MEAN					76.3	1977
HIGHEST DAILY MEAN	243	Mar 12	2130	Jan 14	2800	Nov 20 1974
LOWEST DAILY MEAN	60	Sep 7	60	Dec 17	2.3	Oct 25 1981
ANNUAL SEVEN-DAY MINIMUM	61	Sep 5	61	Oct 1	3.5	Oct 25 1981
INSTANTANEOUS PEAK FLOW			3460	Jan 1	3460	Jan 1 1997
INSTANTANEOUS PEAK STAGE			9.17	Jan 1	9.17	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	69020		167500		100400	
ANNUAL DIVERSION (AC-FT) a	997700		880700			
10 PERCENT EXCEEDS	143		701		150	
50 PERCENT EXCEEDS	65		139		68	
90 PERCENT EXCEEDS	62		63		60	

a Diversion, in acre-feet, to Belden Powerplant, provided by Pacific Gas & Electric Co.

11401165 SOUTH BRANCH WARD CREEK BELOW DIVERSION DAM, NEAR GENESEE, CA

LOCATION.--Lat 40°00'07", long 120°42'07", in SE 1/4 NE 1/4 sec.26, T.25 N., R.11 E., Plumas County, Hydrologic Unit 18020122, on left bank 20 ft downstream from diversion dam, 30 ft downstream from Nye Creek, 3.5 mi upstream from Indian Creek, and 3.8 mi southeast of Genesee.

DRAINAGE AREA.--6.74 mi^2.

PERIOD OF RECORD.--October 1990 to current year (low flow records only).

GAGE.--Water-stage recorder and V-notch sharp-crested weir in concrete control. Elevation of gage is 5,300 ft above sea level, from topographic map.

REMARKS.--Feb. 10 to Mar. 5 missing due to equipment malfunction. No records computed above 12 ft^3/s. Flow regulated at diversion dam 20 ft upstream. Some water is diverted to Five Bears Powerplant and bypasses this gage. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Henwood Energy Services Inc., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	4.3	3.0	---	5.5	---	11	---	10	3.1	3.2	3.1
2	3.7	4.2	3.0	---	5.5	---	12	12	10	3.1	3.1	3.1
3	3.6	4.3	3.1	---	5.5	---	12	12	11	3.1	3.1	3.1
4	3.6	4.2	3.1	---	5.5	---	11	12	11	3.1	3.1	3.1
5	3.6	4.2	5.5	---	5.5	---	11	12	10	3.1	3.1	3.1
6	3.6	4.2	3.2	---	5.4	8.6	11	12	10	3.1	3.1	3.1
7	3.6	4.2	3.2	---	5.4	8.6	11	12	10	3.1	3.1	3.1
8	3.6	4.2	3.2	12	5.4	8.6	11	12	11	3.1	3.3	3.1
9	3.6	4.2	3.7	8.7	5.4	8.8	11	11	11	3.1	3.1	3.1
10	3.7	4.2	3.7	6.8	---	9.3	11	11	11	3.1	3.1	3.1
11	3.8	4.2	5.5	5.7	---	9.9	11	11	10	3.1	3.2	3.1
12	3.8	4.1	9.1	6.2	---	10	11	11	9.9	3.1	3.1	3.1
13	3.8	4.1	4.2	---	---	10	11	11	10	3.1	3.1	3.1
14	3.8	4.2	3.7	---	---	10	11	12	9.5	3.1	3.1	3.4
15	3.8	4.2	3.5	5.3	---	11	11	11	4.3	3.1	3.1	3.6
16	3.8	4.2	3.4	5.3	---	10	11	11	3.2	3.1	3.1	3.1
17	4.0	4.1	3.3	5.3	---	10	11	11	3.2	3.1	3.2	3.1
18	4.5	6.3	3.3	5.3	---	10	11	11	3.2	3.1	3.1	3.1
19	4.3	3.1	3.2	5.3	---	10	12	11	3.2	3.1	3.3	3.1
20	4.2	3.0	3.2	5.3	---	11	---	11	4.0	3.1	3.7	3.1
21	4.1	3.0	3.8	5.3	---	11	---	11	3.4	3.1	3.1	3.1
22	4.2	3.0	3.7	7.6	---	11	---	11	3.4	3.1	3.1	3.1
23	4.2	3.0	3.8	12	---	11	---	11	3.1	3.1	3.1	3.1
24	4.5	3.0	3.2	8.2	---	11	---	11	3.1	3.1	3.1	3.1
25	4.5	3.0	3.2	11	---	11	12	11	3.1	3.1	3.1	3.1
26	4.3	3.0	3.8	8.5	---	11	---	11	3.1	3.1	3.1	3.2
27	4.2	3.0	3.7	6.1	---	11	---	11	3.1	3.4	3.1	3.1
28	4.3	3.0	3.6	5.5	---	11	---	10	3.1	3.6	3.1	3.1
29	4.4	3.0	7.0	5.5	---	11	---	10	3.1	3.2	3.1	3.1
30	4.5	3.0	---	5.5	---	11	12	10	3.1	3.1	3.1	3.1
31	4.4	---	---	5.5	---	11	---	11	---	3.1	3.2	---
TOTAL	123.7	113.7	---	---	---	---	---	---	197.1	97.0	97.5	93.9
MEAN	3.99	3.79	---	---	---	---	---	---	6.57	3.13	3.15	3.13
MAX	4.5	6.3	---	---	---	---	---	---	11	3.6	3.7	3.6
MIN	3.6	3.0	---	---	---	---	---	---	3.1	3.1	3.1	3.1
AC-FT	245	226	---	---	---	---	---	---	391	192	193	186

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA

LOCATION.--Lat 40°00'11", long 120°57'12", in SE 1/4 NE 1/4 sec.27, T.25 N., R.9 E., Plumas County, Hydrologic Unit 18020122, on right bank 200 ft upstream from Blackhawk Creek and 0.9 mi southeast of Keddie.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 1041: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 3,129.86 ft above sea level.

REMARKS.--Records good. Low flow regulated by five small reservoirs having a combined capacity of 800 acre-ft. Approximately 4,600 acres irrigated upstream from station (from information provided by U.S. Forest Service). City of Quincy diverts about 450 acre-ft annually for municipal supply. See schematic diagram of North Fork Feather River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft^3/s, Jan. 2, 1997, gage height, 15.68 ft, from rating curve extended above 5,200 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 3.0 ft^3/s, Sept. 4, 5, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0930	4,030	7.15	Jan. 26	0530	7,900	9.83
Jan. 2	Unknown	22,100	a15.68				

a From floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	71	98	e12000	1110	283	324	282	104	66	34	35
2	46	69	100	e18000	1050	334	302	264	94	63	37	34
3	52	70	90	e12500	906	312	287	252	84	58	37	37
4	50	66	88	e7500	790	288	277	251	125	60	33	36
5	49	64	869	e3800	701	276	264	245	137	56	25	37
6	43	63	451	e2500	617	271	255	237	113	51	25	26
7	42	64	284	e1100	558	267	245	239	107	51	24	32
8	35	65	350	849	520	266	242	231	101	42	29	32
9	43	65	1060	732	468	266	266	227	113	40	29	31
10	44	64	2860	638	435	274	248	220	115	40	28	31
11	45	64	1990	567	412	297	234	215	115	43	30	31
12	47	63	1540	507	395	302	225	207	99	34	34	36
13	43	62	1050	430	374	292	221	197	104	34	24	34
14	42	62	642	399	361	287	227	187	102	39	23	37
15	39	62	434	382	355	297	231	187	93	34	19	58
16	45	61	337	365	357	380	234	182	86	36	22	48
17	49	87	274	349	421	601	246	175	80	41	29	40
18	60	278	226	332	415	497	266	166	73	43	24	46
19	65	311	202	319	395	439	421	158	69	44	26	43
20	59	304	190	316	386	430	395	142	65	43	39	36
21	59	153	233	345	369	474	536	137	64	38	45	44
22	60	195	222	610	355	511	472	139	62	28	37	46
23	62	202	203	735	338	524	485	160	61	27	36	40
24	59	142	187	548	320	498	402	173	58	23	36	25
25	72	119	175	2400	308	466	354	155	54	30	40	25
26	69	104	541	5320	306	451	336	142	54	38	37	38
27	64	96	2180	2640	309	462	336	132	57	41	36	44
28	58	91	2020	2010	298	424	332	122	51	40	33	42
29	75	86	3380	1690	---	384	323	117	57	34	31	39
30	85	81	e5010	1340	---	360	291	110	56	33	33	36
31	76	---	e8820	1140	---	355	---	103	---	38	33	---
TOTAL	1678	3284	36106	82363	13629	11568	9277	5754	2553	1288	968	1119
MEAN	54.1	109	1165	2657	487	373	309	186	85.1	41.5	31.2	37.3
MAX	85	311	8820	18000	1110	601	536	282	137	66	45	58
MIN	35	61	88	316	298	266	221	103	51	23	19	25
AC-FT	3330	6510	71620	163400	27030	22950	18400	11410	5060	2550	1920	2220

e Estimated.

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	58.8	131	290	442	512	563	566	429	169	51.7	28.6	30.5
MAX	702	1015	1498	2657	2843	2043	1715	1301	755	187	74.6	63.8
(WY)	1963	1982	1956	1997	1986	1995	1952	1938	1983	1983	1983	1983
MIN	18.4	34.9	35.3	37.5	50.5	56.1	44.3	50.6	18.6	10.8	5.10	7.57
(WY)	1989	1991	1977	1937	1991	1977	1977	1977	1977	1934	1934	1934

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1934 - 1997	
ANNUAL TOTAL	155758		169587			
ANNUAL MEAN	426		465		271	
HIGHEST ANNUAL MEAN					641	1995
LOWEST ANNUAL MEAN					34.1	1977
HIGHEST DAILY MEAN	8820	Dec 31	18000	Jan 2	18000	Jan 2 1997
LOWEST DAILY MEAN	25	Aug 23	19	Aug 15	3.0	Sep 4 1988
ANNUAL SEVEN-DAY MINIMUM	31	Aug 18	24	Aug 13	4.4	Aug 18 1934
INSTANTANEOUS PEAK FLOW			22100	Jan 2	22100	Jan 2 1997
INSTANTANEOUS PEAK STAGE			15.68	Jan 2	15.68	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	308900		336400		196500	
10 PERCENT EXCEEDS	939		613		644	
50 PERCENT EXCEEDS	156		125		88	
90 PERCENT EXCEEDS	40		34		24	

11403200 NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM, CA

LOCATION.--Lat 39°58'49", long 121°16'33", in SW 1/4 NW 1/4 sec.35, T.25 N., R.6 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 0.7 mi downstream from Rock Creek Diversion Dam and 5.0 mi northeast of Storrie.

DRAINAGE AREA.--1,773 mi^2.

PERIOD OF RECORD.--October 1985 to February 1986, October 1986 to current year. Unpublished records for water years 1982-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 2,120 ft above sea level, from topographic map.

REMARKS.--Low and medium flow regulated by Rock Creek Forebay 0.7 mi upstream. Most of the flow is diverted to Rock Creek Powerplant (station 11403800). Diversion to Rock Creek Powerplant began Feb. 28, 1950. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 91,600 ft^3/s, Jan. 2, 1997, gage height, 31.85 ft; minimum daily, 50 ft^3/s, Feb. 7, 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	105	64	71800	4600	309	168	196	213	147	117	185
2	112	88	62	74400	4650	501	164	195	212	144	116	99
3	112	81	62	42100	4090	460	189	185	189	140	108	521
4	113	72	284	23400	3680	329	180	189	173	140	106	663
5	112	63	337	16500	3260	316	169	192	171	141	148	625
6	113	63	129	13300	2870	217	171	196	172	149	186	680
7	113	63	72	11100	2640	183	173	190	167	148	198	628
8	113	63	72	9230	2510	187	179	193	168	145	177	416
9	112	63	1300	8300	2300	185	157	193	168	123	184	168
10	112	63	6520	8400	2160	178	108	196	172	125	196	328
11	112	63	2950	6040	2030	182	103	208	176	122	193	577
12	113	63	1430	4360	1960	187	109	206	178	124	192	510
13	113	62	847	3670	2120	183	106	196	170	129	187	207
14	113	63	451	3510	1690	173	107	145	167	125	194	226
15	114	62	125	3140	1730	180	106	120	169	129	193	251
16	115	62	e81	2600	1730	183	112	150	167	133	179	242
17	114	69	e72	2460	1980	551	116	151	170	140	195	269
18	113	79	e66	2350	2000	554	118	149	172	141	185	253
19	113	312	65	2190	1910	300	119	154	168	136	186	283
20	113	78	65	2060	1910	394	116	144	169	136	190	139
21	113	66	67	2120	1820	500	365	133	169	139	188	185
22	112	69	68	2620	1720	780	530	140	163	138	191	172
23	112	66	67	2740	1630	931	487	140	159	123	196	158
24	114	65	66	3710	1500	930	240	154	150	124	187	155
25	113	65	65	8890	1400	594	216	265	177	138	188	214
26	112	63	217	18100	1420	505	205	269	142	120	185	261
27	112	63	4360	14200	1410	634	203	260	144	123	190	253
28	112	63	5320	11900	471	453	201	227	139	133	191	257
29	114	63	7290	8250	---	194	202	208	139	140	186	259
30	114	63	16300	5370	---	175	183	202	142	136	188	220
31	112	---	44500	4860	---	177	---	211	---	122	183	---
TOTAL	3497	2283	93374	393670	63191	11625	5602	5757	5035	4153	5503	9404
MEAN	113	76.1	3012	12700	2257	375	187	186	168	134	178	313
MAX	115	312	44500	74400	4650	931	530	269	213	149	198	680
MIN	112	62	62	2060	471	173	103	120	139	120	106	99
AC-FT	6940	4530	185200	780800	125300	23060	11110	11420	9990	8240	10920	18650
a	114300	131500	154900	98140	175400	181400	145700	99790	87320	78980	99270	65750

e Estimated.

a Diversion, in acre-feet, to Rock Creek Powerplant, provided by Pacific Gas & Electric Co.

11403200 NORTH FORK FEATHER RIVER BELOW ROCK CREEK DIVERSION DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	111	79.4	344	1445	653	1543	944	981	352	113	112	123
MAX	175	171	3012	12700	3378	8612	5384	7371	2684	163	178	313
(WY)	1987	1989	1997	1997	1996	1995	1995	1995	1995	1995	1997	1997
MIN	52.7	53.2	52.4	52.0	52.9	52.9	54.2	55.3	55.7	55.3	53.0	53.0
(WY)	1988	1988	1995	1992	1994	1994	1990	1987	1987	1987	1987	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1987 - 1997	
ANNUAL TOTAL	420306		603094			
ANNUAL MEAN	1148		1652		568	
HIGHEST ANNUAL MEAN					2333	1995
LOWEST ANNUAL MEAN					77.7	1988
HIGHEST DAILY MEAN	44500	Dec 31	74400	Jan 2	74400	Jan 2 1997
LOWEST DAILY MEAN	58	Jan 8	62	Nov 13	50	Feb 7 1989
ANNUAL SEVEN-DAY MINIMUM	59	Jan 6	63	Nov 10	51	Dec 22 1993
INSTANTANEOUS PEAK FLOW			91600	Jan 2	91600	Jan 2 1997
INSTANTANEOUS PEAK STAGE			31.85	Jan 2	31.85	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	833700		1196000		411700	
ANNUAL DIVERSION (AC-FT) a	1807000		1433000			
10 PERCENT EXCEEDS	3240		2790		554	
50 PERCENT EXCEEDS	115		180		106	
90 PERCENT EXCEEDS	65		72		53	

a Diversion, in acre-feet, to Rock Creek Powerplant, provided by Pacific Gas & Electric Co.

11403450 MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°54'09", long 121°13'36", in SW 1/4 SW 1/4 sec.29, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 150 ft upstream from right abutment of Lower Bucks Lake Dam, 200 ft upstream from outlet, and 3.4 mi northwest of Bucks Lodge.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-84 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder in 3-ft steel pipe. Elevation of gage is 5,050 ft above sea level.

REMARKS.--Conduit diverts from channel below Three Lakes Reservoir, capacity, 513 acre-ft, and from 12 additional diversions along the conduit. Water is used for power at Bucks Creek Powerplant (station 11403700) and Grizzly Powerplant (station 11404240). See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 71 ft^3/s, Apr. 29, 1995, May 17, 1996; minimum daily, no flow Jan. 2 to Sept. 30, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	2.5	13	12	.00	.00	.00	.00	.00	.00	.00	.00
2	6.2	2.5	12	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	6.1	2.3	11	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	6.0	2.1	13	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	6.0	1.9	25	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	5.8	1.7	14	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	5.8	1.6	14	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	5.5	1.6	21	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	6.7	1.6	40	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	7.8	1.6	47	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	7.7	1.6	49	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	7.6	1.5	48	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	7.4	1.7	48	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	7.1	1.9	32	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	6.7	1.8	27	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	6.1	1.7	25	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	5.4	8.2	23	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	5.1	29	21	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	3.2	24	20	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	1.8	16	20	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	1.4	14	20	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	1.2	21	19	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.2	14	19	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	2.2	12	18	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	2.3	12	19	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	1.9	12	33	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	1.7	12	28	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	1.5	12	30	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	1.9	11	44	.00	---	.00	.00	.00	.00	.00	.00	.00
30	2.6	11	58	.00	---	.00	.00	.00	.00	.00	.00	.00
31	2.5	---	43	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	140.9	237.8	854	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	4.55	7.93	27.5	.39	.000	.000	.000	.000	.000	.000	.000	.000
MAX	7.8	29	58	12	.00	.00	.00	.00	.00	.00	.00	.00
MIN	1.2	1.5	11	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	279	472	1690	24	.00	.00	.00	.00	.00	.00	.00	.00

11403450 MILK RANCH CONDUIT AT OUTLET, NEAR BUCKS LODGE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.57	4.03	7.32	6.81	10.6	19.5	31.7	33.2	16.9	7.26	3.51	3.49
MAX	6.96	8.15	27.5	19.2	38.7	42.7	59.6	66.6	57.3	30.5	7.35	6.82
(WY)	1994	1990	1997	1995	1996	1989	1989	1993	1993	1995	1992	1990
MIN	.35	.65	1.19	.39	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1988	1991	1997	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1987 - 1997	
ANNUAL TOTAL	7897.57		1244.70			
ANNUAL MEAN	21.6		3.41		12.3	
HIGHEST ANNUAL MEAN					21.6	1993
LOWEST ANNUAL MEAN					3.41	1997
HIGHEST DAILY MEAN	71	May 17	58	Dec 30	71	Apr 29 1995
LOWEST DAILY MEAN	.74	Sep 3	.00	Jan 2	.00	Jan 2 1997
ANNUAL SEVEN-DAY MINIMUM	.76	Aug 29	.00	Jan 2	.00	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	15660		2470		8930	
10 PERCENT EXCEEDS	55		12		37	
50 PERCENT EXCEEDS	14		.00		5.8	
90 PERCENT EXCEEDS	1.5		.00		.49	

11403500 BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°53'45", long 121°12'08", in SE 1/4 NW 1/4 sec.33, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, in outlet structure 100 ft upstream from dam on Bucks Creek, 2.0 mi northwest of Bucks Lodge, and 15 mi west of Quincy.

DRAINAGE AREA.--28.6 mi^2.

PERIOD OF RECORD.--1927-28 (year-end contents only, published in WSP 1315-A), October 1928 to current year. Prior to October 1954, published as Bucks Creek Reservoir near Bucks Ranch.

GAGE.--Water-stage recorder. Datum of gage is 3.50 ft below sea level (levels by Feather River Power Co.).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam, completed in 1927; storage began in May 1927. Capacity, 101,400 acre-ft between elevations 5,064.75 ft, sill of outlet gate, and 5,154.85 ft, spillway crest. Storage of 274 acre-ft is not available for release. Released water flows down Bucks Creek to Lower Bucks Lake (station 11403520), where most of the water is diverted to Bucks Creek Tunnel or Grizzly Powerplant (station 11304240), which discharges into Grizzly Creek. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 107,278 acre-ft, May 17, 1996, elevation, 5,157.9 ft; minimum, 12,330 acre-ft, Feb. 27, 1929, elevation, 5,090.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 103,759 acre-ft, Jan. 7, elevation, 5,156.0 ft; minimum, 52,984 acre-ft, Nov. 16, elevation, 5,125.3 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1927)

5,090	11,742	5,130	59,997
5,095	16,183	5,140	75,894
5,100	21,180	5,150	92,950
5,110	32,519	5,160	111,220
5,120	45,472		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69392	58782	54450	94366	103392	95967	98659	101198	99743	101380	97938	90668
2	69392	58328	54007	99563	103209	95967	98297	100651	99924	101562	97400	90668
3	68913	57876	53714	101380	103209	95789	98118	100469	100105	101562	97220	90668
4	68434	57576	53714	102476	103209	95433	97759	100287	100469	101562	97041	90319
5	67955	57576	54745	103209	102659	95076	97579	100287	100651	101562	96502	89795
6	67478	56675	55040	103576	102293	94720	97400	100105	100651	101562	96324	89273
7	67003	56228	55188	103759	102293	94366	97041	99924	100651	101744	95789	88752
8	66844	55930	55188	103576	101926	94189	96861	99743	100833	101744	95611	88232
9	66369	55483	56675	103576	101744	94543	96682	99563	101016	101744	95255	87712
10	66053	55040	58934	103576	101380	94720	96342	99382	101016	101744	95255	87367
11	65581	54597	60764	103576	101198	94898	95967	99382	101016	101744	95255	86851
12	65109	54155	61839	103392	100833	95076	95789	99201	100833	101744	95255	86334
13	64637	53861	62922	103392	100651	95255	95967	99382	100833	101744	95255	85818
14	64169	53861	63233	103392	100287	95433	95967	99563	100833	101744	95255	85475
15	63701	53422	63701	103392	100105	95611	95789	99743	100833	101744	95255	85133
16	63545	52984	63857	103209	99743	96146	95967	99382	100833	101744	95255	84619
17	63545	53130	63701	103209	99563	96502	95789	99382	100833	101744	95076	84107
18	63701	54007	63701	103209	99382	96682	96324	99743	101016	101380	95076	83597
19	63701	55335	64013	102843	99201	97041	97220	99743	101016	101380	94898	83087
20	63389	55781	63857	102476	98839	97220	97938	99743	101016	101380	94898	82747
21	63077	56079	63857	102476	98659	97579	98839	99743	101016	101198	94543	82239
22	62613	56526	63857	102659	98297	97938	99201	99743	101198	100651	94189	81733
23	62149	56675	63701	102476	97938	98297	99382	99743	101198	100651	93835	81227
24	61994	56377	63389	102293	97579	98659	99382	99924	101198	100105	93658	80721
25	61530	56079	63233	103026	97400	99020	99382	100105	101198	99924	93127	80218
26	61070	55930	63857	103576	97041	99382	99743	100287	101380	99743	92598	79716
27	60610	55632	64481	103392	96682	99563	99924	100105	101380	99382	92071	79213
28	60150	55188	64952	103209	96502	99563	100469	99743	101380	99201	91544	78714
29	59997	54893	66686	103209	---	99382	100833	99743	101380	98659	91368	78381
30	59541	54597	71649	103392	---	99201	100833	99743	101380	98659	90668	77881
31	59086	---	79716	103392	---	99020	---	99563	---	98478	90668	---
MAX	69392	58782	79716	103759	103392	99563	100833	101198	101380	101744	97938	90668
MIN	59086	52984	53714	94366	96502	94189	95789	99201	99743	98478	90668	77881
a	5129.40	5126.40	5142.30	5155.80	5152.00	5153.40	5154.40	5153.70	5154.70	5153.10	5148.70	5141.20
b	-10628	-4489	+25119	+23676	-6890	+2518	+1813	-1270	+1817	-2902	-7810	-12787

CAL YR 1996 MAX 107278 MIN 52984 b +13347
WTR YR 1997 MAX 103759 MIN 52984 b +8167

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11403520 LOWER BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°53'59", long 121°13'32", in NE 1/4 NW 1/4 sec.32, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, in outlet tower for Bucks Creek Tunnel 900 ft upstream from Buck Diversion Dam, 1.3 mi downstream from Bucks Lake Dam, and 3.2 mi northwest of Bucks Lodge.

DRAINAGE AREA.--31.3 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981–85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 3.50 ft below sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Lake is formed by concrete dam. Storage began in October 1929. Usable capacity, 5,796 acre-ft between elevations 4,952 ft, point of lowest drawdown, and 5,021.95 ft, crest of spillway. Water is received from Bucks Lake (station 11403500) and from Milk Ranch Conduit (station 11403450). Most of the water is diverted through Bucks Creek Tunnel or Grizzly Powerplant (station 11404240) and discharges into Grizzly Creek for power development downstream. Figures given, including extremes, represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 6,203 acre-ft, May 18, 1996, elevation, 5,024.6 ft; minimum, 99 acre-ft, Sept. 9, 1993, elevation, 4,956.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 5,994 acre-ft, Jan. 1, elevation, 5,023.1 ft; minimum, 3,636 acre-ft, Feb. 9, elevation, 5,004.2 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1928)

4,950	24	5,000	3,175
4,960	194	5,010	4,307
4,970	624	5,020	5,573
4,980	1,314	5,030	6,981
4,990	2,171		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5050	4501	4416	5994	5140	4200	3851	4236	4822	4464	4598	4885
2	4797	4355	4236	5912	4835	3955	4141	4296	4797	4525	4822	4847
3	4810	4549	4094	5884	4611	4013	4464	4331	4760	4525	4710	4710
4	4735	4404	4488	5884	4367	4224	4586	4404	4747	4525	4586	4513
5	4810	4404	4611	5925	4355	4141	4379	4296	4735	4525	4810	4611
6	4847	4785	4464	5953	4272	4200	4404	4177	4722	4525	4660	4673
7	5012	4562	4224	5816	4094	4392	4379	4165	4697	4525	4797	4760
8	4735	4501	4165	5775	3874	4513	4296	4118	4685	4525	4685	4537
9	4810	4379	4623	5656	3636	4525	4272	4001	4710	4513	4910	4537
10	4697	4379	4872	5520	3726	4537	4248	4416	4697	4513	4885	4525
11	4685	4392	5063	5348	3851	4549	4452	4685	4772	4513	4860	4392
12	4697	4747	5025	5153	4343	4549	4747	4847	4772	4513	4835	4343
13	4722	5025	4760	5547	4118	4549	4416	4697	4673	4501	4810	4440
14	4810	4847	4635	5721	3874	4549	4284	4392	4416	4501	4782	4476
15	4923	4860	4635	5427	3851	4562	4537	4284	4440	4501	4760	4476
16	5037	4797	4236	5114	3794	4586	4319	4476	4537	4501	4735	4513
17	5025	4860	4404	4785	3771	4598	4428	4392	4537	4598	4710	4525
18	5025	5089	4574	4440	3908	4611	4440	4367	4537	4923	4685	4525
19	4810	5205	4343	4355	3931	4623	4464	4367	4537	4898	4910	4810
20	4936	5205	4212	4355	3931	4623	4476	4549	4537	4872	4623	4635
21	4772	4948	4272	4307	4083	4635	4343	4307	4549	4648	4722	4574
22	4611	4835	4001	4284	3920	4648	4200	4319	4537	4923	4635	4611
23	4635	4648	4048	4212	4248	4660	4272	4367	4537	4660	4747	4623
24	4549	4574	3748	4071	4355	4673	4319	4343	4537	4785	4586	4648
25	4379	4513	4071	4106	4094	4673	4440	4331	4537	4685	4660	4562
26	4248	4189	4141	5050	3839	4440	4307	4319	4537	4598	4710	4464
27	4464	4141	3943	5994	3920	4260	4549	4598	4537	4923	4710	4464
28	4586	4153	3760	5953	4106	4036	4476	4797	4537	4697	4760	4464
29	4452	3989	3714	5939	---	3782	4296	4722	4525	4923	4673	4452
30	4488	4165	4236	5735	---	4001	4106	4923	4537	4747	4810	4392
31	4562	---	5101	5454	---	4036	---	4835	---	4549	4910	---
MAX	5050	5205	5101	5994	5140	4673	4747	4923	4822	4923	4910	4885
MIN	4248	3989	3714	4071	3636	3782	3851	4001	4416	4464	4586	4343
a	5012.10	5008.80	5016.40	5019.10	5008.30	5007.70	5008.30	5014.30	5011.90	5012.00	5014.90	5010.70
b	-148	-397	+936	+353	-1348	-70	+70	+729	-298	+12	+361	-518

CAL YR 1996 MAX 6203 MIN 3658 b +1330
WTR YR 1997 MAX 5994 MIN 3636 b -318

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11403530 BUCKS CREEK BELOW DIVERSION DAM, NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°54'16", long 121°13'47", in NW 1/4 SW 1/4 sec.29, T.24 N., R.7 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on left bank 20 ft upstream from unnamed tributary, 0.2 mi downstream from diversion dam, and 3.6 mi northwest of Bucks Lodge.

DRAINAGE AREA.--31.5 mi^2.

PERIOD OF RECORD.--October 1990 to current year. Unpublished records for water years 1981-90 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir since Sept. 19, 1990. Elevation of gage is 4,850 ft above sea level, from topographic map.

REMARKS.--Records not computed for winter months. Flow regulated by diversion dam at lower Bucks Lake 0.2 mi upstream, where most of the flow is diverted to Grizzly Creek via Bucks Creek Tunnel outlet or Grizzly Powerplant (station 11404240). Prior to Sept. 19, 1990, low flows regulated by fixed-plate orifice at outlet of diversion dam. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	2.6	1.6	175	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
2	3.8	1.6	1.6	239	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
3	3.8	1.6	1.7	84	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
4	3.7	1.6	1.6	56	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
5	3.7	1.6	1.6	165	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
6	3.7	1.6	1.7	263	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
7	3.7	1.6	1.7	172	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
8	3.8	1.6	1.6	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
9	3.7	1.6	1.7	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
10	3.7	1.6	1.7	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
11	3.7	1.6	1.7	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
12	3.7	1.6	1.7	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
13	3.7	1.6	1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
14	3.7	1.6	1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
15	3.7	1.7	1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
16	3.7	1.7	1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
17	3.8	1.8	1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
18	3.8	1.9	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
19	3.8	1.8	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
20	3.8	1.8	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
21	3.7	1.8	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
22	3.7	1.7	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
23	3.7	1.7	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
24	3.7	1.6	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
25	3.7	1.6	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
26	3.7	1.6	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
27	3.6	1.5	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
28	3.6	1.5	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
29	3.7	1.6	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
30	3.8	1.6	e1.8	---	---	---	---	e4.0	e4.0	e4.0	e4.0	e4.0
31	3.7	---	e1.8	---	---	---	---	e4.0	---	e4.0	e4.0	---
TOTAL	115.3	50.3	54.1	---	---	---	---	124.0	120.0	124.0	124.0	120.0
MEAN	3.72	1.68	1.75	---	---	---	---	4.00	4.00	4.00	4.00	4.00
MAX	3.8	2.6	1.8	---	---	---	---	4.0	4.0	4.0	4.0	4.0
MIN	3.6	1.5	1.6	---	---	---	---	4.0	4.0	4.0	4.0	4.0
AC-FT	229	100	107	---	---	---	---	246	238	246	246	238
a	11040	10830	11200	14680	16110	6530	10780	8110	1020	3000	7230	12750

CAL YR 1996 a 129100
WTR YR 1997 a 113300

e Estimated.

a Diversion, in acre-feet, to Grizzly Powerplant, provided by Pacific Gas & Electric Co.

11404250 GRIZZLY FOREBAY NEAR STORRIE, CA

LOCATION.--Lat 39°53'32", long 121°17'25", in SW 1/4 NE 1/4 sec.34, T.24 N., R.6 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, in outlet tower for Bucks Creek Powerplant 100 ft upstream from Grizzly Diversion Dam, 2.4 mi southeast of Storrie, and 6.2 mi west of Bucks Lodge.

DRAINAGE AREA.--14.4 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1981-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 3.50 ft below sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Lake is formed by concrete dam. Storage began in July 1928. Usable capacity, 1,033 acre-ft between elevations 4,271 ft, bottom of diversion tunnel, and 4,316.0 ft, crest of spillway. Water is received from Bucks Creek via Bucks Creek Tunnel and Grizzly Powerplant (station 11404240) which enter Grizzly Creek upstream. Most of the water is diverted through tunnel to Bucks Creek Powerplant (station 11403700) for power development downstream on North Fork Feather River. Figures given, including extremes, represent total contents. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,329 acre-ft, Dec. 30, 1996, elevation, 4,321.5 ft; minimum, 216 acre-ft, Sept. 20, 1991, elevation, 4,282.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,329 acre-ft, Dec. 30, elevation, 4,321.5 ft; minimum, 736 acre-ft, June 16, elevation, 4,305.0 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Feather River Power Co. in 1928)

4,290	350	4,305	736
4,295	464	4,310	898
4,300	592	4,320	1,268

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	898	1002	792	1280	1170	1174	1071	881	1042	1031	1035	770
2	942	953	918	1193	1170	1174	1143	901	1064	1046	1049	799
3	921	974	877	1166	1166	1143	1013	867	981	960	1038	831
4	1046	981	1017	1158	1166	1174	877	887	1009	799	1038	898
5	1024	981	1017	1150	1166	1143	1038	928	1027	818	981	915
6	1031	928	773	1147	1166	1174	970	984	1009	831	884	974
7	967	1006	844	1174	1166	1174	949	932	967	844	894	1038
8	991	970	1060	1174	1166	1135	991	904	1017	857	960	1042
9	953	1020	1174	1174	1166	1131	963	942	898	867	981	857
10	1042	1049	1139	1170	1162	1131	935	918	834	881	1002	970
11	988	1024	1170	1170	1143	1131	908	881	805	891	1027	918
12	967	974	1158	1170	1135	1131	977	925	851	901	1046	1002
13	995	911	1109	1135	1162	1131	932	854	818	911	1068	928
14	984	942	1064	1166	1162	1131	999	939	904	918	1090	1049
15	1027	970	783	1166	1143	1131	1002	1020	749	928	988	988
16	1049	991	932	1166	1162	1139	1068	946	736	939	1009	1013
17	1068	963	999	1166	1174	1139	1027	946	764	974	1031	1009
18	1046	1053	1013	1162	1170	1135	967	1020	789	999	1053	960
19	915	1139	805	1162	1147	1135	942	925	815	1024	1075	974
20	953	851	871	1162	1170	1086	828	745	834	984	1035	953
21	871	841	795	1162	1170	1009	818	871	854	1002	1020	1031
22	991	792	1002	1162	1170	1013	894	925	874	1017	995	991
23	921	881	901	1162	1143	995	988	949	894	1035	932	960
24	821	874	1079	1162	1174	1013	981	808	915	1038	1006	967
25	821	891	745	1181	1170	960	877	851	932	1009	995	981
26	932	887	1166	1166	1170	1086	995	904	949	1049	995	1017
27	977	898	1166	1150	1143	1154	1013	841	963	1075	1035	1020
28	891	942	1166	1150	1170	1135	877	974	981	1064	991	1057
29	946	963	1201	1143	---	1139	761	991	995	974	881	963
30	918	745	1329	1170	---	908	918	884	1013	884	932	1060
31	925	---	1268	1170	---	877	---	991	---	960	953	---
MAX	1068	1139	1329	1280	1174	1174	1143	1020	1064	1075	1090	1060
MIN	821	745	745	1135	1135	877	761	745	736	799	881	770
a	4310.80	4305.30	4320.00	4317.50	4317.50	4309.40	4310.60	4312.70	4313.30	4311.80	4311.60	4314.60
b	-128	-180	+523	-98	0	-293	+41	+73	+22	-53	-7	+107

CAL YR 1996 MAX 1329 MIN 706 b +411
WTR YR 1997 MAX 1329 MIN 736 b +7

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA

LOCATION.--Lat 39°53'29", long 121°17'35", in SW 1/4 NE 1/4 sec.34, T.24 N., R.6 E., Plumas County, Hydrologic Unit 18020121, Plumas National Forest, on right bank 0.2 mi downstream from diversion dam, and 2.4 mi southeast of Storrie.

DRAINAGE AREA.--14.4 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1976-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir, since Oct. 8, 1987. Elevation of gage is 4,320 ft above sea level, from topographic map. Prior to Oct. 8, 1987, at datum 1.79 ft higher.

REMARKS.--Flow regulated by diversion dam 0.2 mi upstream. There is considerable inflow upstream from the diversion dam from Bucks Creek Tunnel outlet and Grizzly Powerplant (station 11404240). Most of the flow is diverted to Bucks Creek Powerplant (station 11403700) on North Fork Feather River. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft^3/s, Jan. 1, 1997, gage height, 7.33 ft, from rating curve extended above 260 ft^3/s on basis of computation of peak flow over dam; maximum gage height, 9.54 ft, Feb. 17, 1986, datum then in use; minimum daily, 1.9 ft^3/s, June 14, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	3.3	2.3	4810	561	287	2.5	4.8	4.8	4.7	4.7	4.6
2	4.7	2.3	2.3	1470	552	474	197	4.8	4.8	4.7	4.8	4.4
3	4.7	2.4	2.3	631	477	317	142	4.7	4.8	4.7	4.8	4.4
4	4.8	2.4	2.4	398	471	212	2.6	4.7	4.8	4.6	4.8	4.5
5	4.8	2.4	81	302	519	424	2.6	4.8	4.8	4.5	4.8	4.6
6	4.8	2.4	2.6	248	511	350	2.6	4.8	4.8	4.5	4.7	4.7
7	4.8	2.4	2.5	409	504	286	2.6	4.8	4.8	4.5	4.6	4.7
8	4.7	2.4	2.7	545	497	227	2.6	4.7	4.8	4.5	4.6	4.7
9	4.7	2.4	286	554	492	81	2.6	4.7	4.8	4.6	4.7	4.6
10	4.8	2.4	591	548	332	77	2.5	4.8	4.7	4.6	4.7	4.6
11	4.8	2.4	309	538	313	81	2.5	4.7	4.6	4.6	4.7	4.6
12	4.8	2.4	254	528	120	88	2.5	4.7	4.6	4.6	4.7	4.7
13	4.7	2.4	353	510	460	84	2.5	4.7	4.6	4.6	4.7	4.7
14	4.8	2.3	3.2	503	478	84	2.5	4.7	4.6	4.6	4.8	4.8
15	4.8	2.3	3.0	499	375	91	2.5	4.8	4.7	4.7	4.8	4.7
16	4.8	2.4	2.7	492	374	130	2.5	4.9	4.5	4.7	4.7	4.7
17	4.8	2.5	2.7	488	389	147	2.5	4.8	4.5	4.7	4.7	4.7
18	4.9	2.6	8.9	482	299	129	2.5	4.8	4.5	4.8	4.7	4.7
19	4.7	41	2.7	477	369	122	2.5	4.8	4.5	4.8	4.7	4.6
20	4.7	17	2.6	477	345	70	2.5	4.7	4.6	4.8	4.8	4.7
21	4.7	2.5	2.6	478	275	2.6	2.5	4.5	4.6	4.8	4.7	4.7
22	4.7	2.6	2.7	476	435	2.6	2.4	4.7	4.6	4.8	4.7	4.7
23	4.7	2.4	2.6	472	190	2.6	2.5	4.8	4.7	4.8	4.6	4.7
24	4.6	2.4	2.6	470	277	2.6	2.5	4.8	4.6	4.8	4.6	4.7
25	4.5	2.4	2.6	686	474	2.6	2.5	4.6	4.6	4.8	4.7	4.7
26	4.7	2.3	24	813	470	2.6	2.5	4.7	4.6	4.8	4.7	4.7
27	4.7	2.3	412	363	319	46	2.6	4.7	4.6	4.8	4.7	4.7
28	4.7	2.4	522	292	220	237	2.6	4.7	4.6	4.8	4.7	4.7
29	4.8	2.4	848	232	---	178	2.5	4.8	4.7	4.8	4.6	4.7
30	4.8	2.3	1990	397	---	41	3.7	4.7	4.7	4.7	4.6	4.7
31	4.8	---	3070	561	---	2.5	---	4.7	---	4.7	4.6	---
TOTAL	147.1	126.1	8796.0	20149	11098	4281.1	410.9	146.9	139.9	145.4	145.7	139.7
MEAN	4.75	4.20	284	650	396	138	13.7	4.74	4.66	4.69	4.70	4.66
MAX	4.9	41	3070	4810	561	474	197	4.9	4.8	4.8	4.8	4.8
MIN	4.5	2.3	2.3	232	120	2.5	2.4	4.5	4.5	4.5	4.6	4.4
AC-FT	292	250	17450	39970	22010	8490	815	291	277	288	289	277
a	11480	14660	18230	0	0	4920	15940	10640	2260	3530	7020	12970

a Diversion, in acre-feet, to Bucks Creek Powerplant, provided by Pacific Gas & Electric Co.

11404300 GRIZZLY CREEK BELOW DIVERSION DAM, NEAR STORRIE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.62	3.86	28.0	66.1	77.5	55.0	24.2	41.8	18.6	5.93	3.69	3.54
MAX	11.8	19.2	284	650	396	174	215	277	182	26.3	5.49	4.96
(WY)	1996	1989	1997	1997	1997	1995	1995	1995	1995	1995	1991	1991
MIN	2.01	2.01	2.09	2.11	2.17	2.20	2.10	2.03	2.01	2.08	2.03	2.00
(WY)	1995	1988	1994	1994	1994	1988	1987	1987	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1986 - 1997	
ANNUAL TOTAL	18864.1		45725.8			
ANNUAL MEAN	51.5		125		27.5	
HIGHEST ANNUAL MEAN					125	1997
LOWEST ANNUAL MEAN					2.58	1994
HIGHEST DAILY MEAN	3070	Dec 31	4810	Jan 1	4810	Jan 1 1997
LOWEST DAILY MEAN	2.3	Jan 13	2.3	Nov 2	1.9	Jun 14 1988
ANNUAL SEVEN-DAY MINIMUM	2.3	Nov 26	2.3	Nov 26	2.0	May 2 1987
INSTANTANEOUS PEAK FLOW			6300	Jan 1	6300	Jan 1 1997
INSTANTANEOUS PEAK STAGE			7.33	Jan 1	9.54	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	37420		90700		19960	
ANNUAL DIVERSION (AC-FT) a	177300		101700			
10 PERCENT EXCEEDS	126		474		6.1	
50 PERCENT EXCEEDS	4.7		4.7		2.4	
90 PERCENT EXCEEDS	2.4		2.5		2.1	

a Diversion, in acre-feet, to Bucks Creek Powerplant, provided by Pacific Gas & Electric Co.

11404330 NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK, CA

LOCATION.--Lat 39°51'09", long 121°23'29", in NE 1/4 NW 1/4 sec.14, T.23 N., R.5 E., Butte County, Hydrologic Unit 18020121, Lassen National Forest, on left bank 0.7 mi upstream from Bear Ranch Creek, 1.6 mi downstream from Grizzly Creek, and 2.1 mi downstream from Cresta Dam.

DRAINAGE AREA.--1,914 mi^2.

PERIOD OF RECORD.--October 1985 to February 1986, October 1986 to current year. Unpublished records for water years 1982-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Elevation of gage is 1,480 ft above sea level, from topographic map.

REMARKS.--Flow regulated by numerous reservoirs upstream, combined capacity, 1,386,000 acre-ft. Most of the flow bypasses this station through Cresta Powerplant (station 11404360). Diversion through Cresta Powerplant began in 1949. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 115,000 ft^3/s, Jan. 1, 1997, gage height, 29.97 ft; minimum daily, 37 ft^3/s, July 25, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	60	102	96900	9480	4050	444	189	63	71	141	96
2	56	58	85	73800	9290	4770	583	169	62	72	132	83
3	55	56	81	43600	8650	4750	624	167	102	69	145	111
4	58	56	106	25900	8170	4480	460	161	168	67	101	94
5	57	56	2290	18000	7790	4650	373	166	146	803	93	96
6	57	56	794	14300	7430	4390	418	171	148	493	637	89
7	56	55	175	11900	7180	3710	430	163	142	387	708	86
8	56	56	206	10300	7040	3490	413	167	140	287	686	80
9	56	56	3570	9280	6830	3390	319	164	143	212	428	100
10	56	56	11900	9070	6530	3250	180	158	144	180	172	102
11	57	57	8160	8120	6410	3590	172	158	140	107	149	105
12	57	56	6630	8180	6140	3710	187	155	124	136	91	113
13	56	56	5540	7420	6240	3690	182	160	88	136	131	110
14	57	56	2220	7230	6130	3870	180	152	81	131	96	110
15	58	56	807	7210	6100	4050	189	115	81	134	173	113
16	58	54	355	6710	6050	4230	190	72	77	102	135	99
17	57	103	294	6570	6290	4410	194	71	77	153	183	93
18	60	1060	198	6440	6230	4590	215	69	80	102	167	92
19	59	1690	182	6280	6180	3110	1570	68	78	104	124	71
20	56	1010	171	6150	6110	1190	663	67	77	63	192	86
21	56	137	190	6130	5980	571	1160	65	76	68	191	84
22	57	235	196	6780	6020	904	1180	65	74	97	205	82
23	57	154	178	6770	5750	1170	1290	73	72	272	195	81
24	65	116	163	6770	5620	967	681	72	72	539	205	82
25	65	102	156	10800	5500	819	449	68	73	463	188	79
26	58	93	1150	22800	5510	661	208	66	69	133	152	68
27	57	87	6210	16500	5660	811	202	64	67	133	147	68
28	56	85	8190	14000	3810	953	207	65	67	143	102	64
29	81	80	13000	11600	---	748	204	64	64	143	94	62
30	73	77	29100	10500	---	557	197	64	67	145	100	64
31	63	---	54800	9630	---	478	---	63	---	137	104	---
TOTAL	1827	5929	157199	505640	184120	86009	13764	3491	2862	6082	6367	2663
MEAN	58.9	198	5071	16310	6576	2774	459	113	95.4	196	205	88.8
MAX	81	1690	54800	96900	9480	4770	1570	189	168	803	708	113
MIN	55	54	81	6130	3810	478	172	63	62	63	91	62
AC-FT	3620	11760	311800	1003000	365200	170600	27300	6920	5680	12060	12630	5280
a	130900	156000	190800	0	0	86080	175500	130200	101700	81320	112700	87970

a Diversion, in acre-feet, to Cresta Powerplant, provided by Pacific Gas & Electric Co.

11404330 NORTH FORK FEATHER RIVER BELOW GRIZZLY CREEK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	82.0	101	547	1965	1256	2376	1284	1351	439	88.4	78.1	65.1
MAX	182	256	5071	16310	6576	10220	6777	9322	3842	221	205	88.8
(WY)	1986	1989	1997	1997	1997	1995	1995	1995	1995	1995	1997	1997
MIN	57.4	57.8	59.0	55.7	61.5	86.0	78.0	67.7	55.6	55.4	55.5	56.0
(WY)	1992	1993	1990	1991	1991	1988	1988	1992	1988	1988	1988	1991

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1986 - 1997	
ANNUAL TOTAL	584951		975953			
ANNUAL MEAN	1598		2674		815	
HIGHEST ANNUAL MEAN					3115	1995
LOWEST ANNUAL MEAN					75.2	1994
HIGHEST DAILY MEAN	54800	Dec 31	96900	Jan 1	96900	Jan 1 1997
LOWEST DAILY MEAN	52	Aug 4	54	Nov 16	37	Jul 25 1994
ANNUAL SEVEN-DAY MINIMUM	53	Jul 30	56	Nov 3	52	Dec 10 1989
INSTANTANEOUS PEAK FLOW			115000	Jan 1	115000	Jan 1 1997
INSTANTANEOUS PEAK STAGE			29.97	Jan 1	29.97	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	1160000		1936000		590400	
ANNUAL DIVERSION (AC-FT) a	2027000		1253000			
10 PERCENT EXCEEDS	4080		6910		1420	
50 PERCENT EXCEEDS	133		161		72	
90 PERCENT EXCEEDS	57		58		56	

a Diversion, in acre-feet, to Cresta Powerplant, provided by Pacific Gas & Electric Co.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA

LOCATION.--Lat 39°47'40", long 121°27'02", in SE 1/4 NE 1/4 sec.6, T.22 N., R.5 E., Butte County, Hydrologic Unit 18020121, Plumas National Forest, on left bank between railroad and highway bridges, 0.6 mi downstream from Flea Valley Creek and Pulga, and 1.6 mi downstream from Poe Dam.

DRAINAGE AREA.--1,953 mi^2.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods and yearly estimates for water years 1911 and 1938, published in WSP 1315-A. Prior to October 1960, published as "at Big Bar."
CHEMICAL DATA: Water years 1963-66, 1972, 1977.
WATER TEMPERATURE: Water years 1963-83.

REVISED RECORDS.--WSP 931: 1938(M), 1940. WSP 1515: 1935. WDR CA-77-4: 1976 (yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 1,305.62 ft above sea level. Prior to Oct. 1, 1937, at site 1.1 mi upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft higher.

REMARKS.--Flow regulated by Lake Almanor, Bucks Lake, Butt Valley Reservoir (stations 11399000, 11403500, 11401050), Mountain Meadows Reservoir, and five forebays, combined capacity, 1,386,000 acre-ft. Diversion through Poe Powerplant (station 11404900) began on May 29, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,400 ft^3/s, Jan. 1, 1997, gage height, 41.65 ft, from rating curve extended above 32,000 ft^3/s on basis of slope area measurement of peak discharge; minimum daily, 5.4 ft^3/s, Sept. 18, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	90	95	e101000	e6310	e898	e531	e246	e119	e115	e113	110
2	90	89	91	e76900	e6110	e1500	e506	e133	e118	e116	e111	362
3	92	88	93	e45400	e5480	e1540	e567	e192	e119	e115	e113	127
4	90	89	96	e27000	e4970	e1190	e421	e272	e123	e115	e115	114
5	89	88	2260	e18800	e4550	e1370	e390	e157	e112	e115	e115	115
6	89	89	974	e13500	e4200	e1090	e468	e173	e113	e117	e115	115
7	86	89	204	e8910	e3960	e912	e457	e167	e111	e115	e115	115
8	89	88	142	e7260	e3800	e880	e519	e196	e118	e114	e115	115
9	88	88	6000	e6200	e3580	e859	e381	e140	e115	e117	e115	115
10	87	89	15700	e5960	e3200	e958	e211	e179	e119	e115	e115	114
11	88	88	11000	e4960	e3100	e919	e213	e1290	e118	e114	e115	115
12	89	88	9300	e5030	e2860	e944	e129	e116	e115	e111	e115	116
13	88	88	8020	e4230	e2960	e1010	e169	e115	e115	e121	e115	116
14	84	86	4560	e4040	e2800	e1260	e146	e115	e117	e116	e109	116
15	91	88	3100	e4020	e2760	e1570	e94	e119	e114	e116	114	117
16	90	88	2580	e3450	e2770	e1190	e188	e119	e117	e116	112	116
17	91	105	2150	e3330	e3040	e1070	e171	e117	e113	e121	111	115
18	91	880	1620	e3200	e2950	e1240	e263	e117	e115	e117	114	117
19	95	1640	1260	e3020	e2890	e552	e2650	e116	e115	e115	114	109
20	89	1140	1950	e2890	e2820	e737	e720	e119	e116	e117	115	113
21	91	122	1300	e2850	e2690	e666	e1170	e118	e115	e117	113	115
22	89	124	1970	e3560	e2760	e1070	e1240	e115	e115	e117	112	116
23	89	110	1360	e3550	e2490	e1330	e1380	e111	e115	e115	111	115
24	93	97	171	e3550	e2350	e1170	e750	e119	e116	e115	112	117
25	93	96	146	e7760	e2240	e1010	e497	e118	e109	e115	111	116
26	88	92	349	e20300	e2230	e821	e258	e117	e113	e115	111	115
27	89	90	7100	e13700	e2360	e988	e332	e115	e111	e115	109	115
28	88	91	10100	e11100	e902	e1170	e295	e112	e109	e113	110	115
29	99	94	14200	e8480	---	e962	e182	e115	e110	e113	111	115
30	96	90	e11000	e7400	---	e600	e256	e118	e116	e111	111	116
31	90	---	e10100	e6520	---	e525	---	e119	---	e115	112	---
TOTAL	2792	6184	128991	437870	93132	32001	15554	5475	3451	3579	3499	3707
MEAN	90.1	206	4161	14120	3326	1032	518	177	115	115	113	124
MAX	99	1640	15700	101000	6310	1570	2650	1290	123	121	115	362
MIN	84	86	91	2850	902	525	94	111	109	111	109	109
AC-FT	5540	12270	255900	868500	184700	63470	30850	10860	6850	7100	6940	7350
a	117600	141300	136000	181000	200700	206200	174300	120900	94850	81820	103900	77720

e Estimated.

a Diversion, in acre-feet, to Poe Powerplant, provided by Pacific Gas & Electric Co.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	969	1165	1730	2287	2768	2886	3519	3037	1585	975	921	875
MAX	2943	4594	10690	14120	14320	11960	13580	12460	7690	2771	2441	2430
(WY)	1963	1951	1956	1997	1986	1995	1952	1922	1911	1952	1952	1952
MIN	16.4	26.4	50.7	52.6	56.0	58.2	54.9	41.7	34.0	32.6	13.3	14.2
(WY)	1978	1978	1977	1977	1990	1977	1990	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1911 - 1997	
ANNUAL TOTAL	588866		736235			
ANNUAL MEAN	1609		2017		1863	
HIGHEST ANNUAL MEAN					5320	1952
LOWEST ANNUAL MEAN					42.7	1977
HIGHEST DAILY MEAN	17600	Feb 21	101000	Jan 1	101000	Jan 1 1997
LOWEST DAILY MEAN	58	Jan 12	84	Oct 14	5.4	Sep 18 1977
ANNUAL SEVEN-DAY MINIMUM	59	Jan 8	88	Oct 8	12	Aug 10 1977
INSTANTANEOUS PEAK FLOW			105400	Jan 1	105400	Jan 1 1997
INSTANTANEOUS PEAK STAGE			41.65	Jan 1	41.65	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	1168000		1460000		1350000	
ANNUAL DIVERSION (AC-FT) a	2049000		1636000			
10 PERCENT EXCEEDS	4420		4210		4630	
50 PERCENT EXCEEDS	102		117		1320	
90 PERCENT EXCEEDS	89		90		55	

a Diversion, in acre-feet, to Poe Powerplant, provided by Pacific Gas & Electric Co.

11405120 PHILBROOK CREEK BELOW PHILBROOK DAM, NEAR BUTTE MEADOWS, CA

LOCATION.--Lat 40°01'48", long 121°28'36", unsurveyed, T.25 N., R.4 E., Butte County, Hydrologic Unit 18020121, Lassen National Forest, on right bank 500 ft downstream from outlet structure on Philbrook Dam, and 5.4 mi southeast of Butte Meadows.

DRAINAGE AREA.--5.05 mi^2.

PERIOD OF RECORD.--July 1989 to current year (no winter records). Unpublished records for water years 1986-89 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder, Parshall flume, and V-notch sharp-crested weir. Elevation of gage is 5,490 ft above sea level, from topographic map. October 1985 to July 1989, nonrecording gage at same site and datum. In June 1989, V-notch sharp-crested weir installed in flume to be used at low flows.

REMARKS.--Records not computed for winter months. Flow completely regulated by Philbrook Reservoir, usable capacity, 5,370 acre-ft, 500 ft upstream. Spillwater from Philbrook Reservoir bypasses this station.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	3.1	4.2	---	---	---	4.3	5.0	3.4	11	39	8.2
2	.98	3.1	4.1	---	---	---	4.3	5.0	3.4	11	39	2.1
3	1.2	3.1	4.0	---	---	---	4.3	5.0	3.4	11	39	3.9
4	1.1	3.1	4.1	---	---	---	4.3	5.0	3.5	11	38	3.9
5	1.1	3.1	4.2	---	---	---	4.3	5.0	3.5	11	43	3.8
6	1.1	3.1	4.2	---	---	---	4.3	5.0	3.5	11	79	3.8
7	1.1	3.1	4.2	---	---	---	4.3	4.0	3.5	15	79	3.8
8	1.3	3.1	4.9	---	---	---	4.3	3.0	3.4	18	53	3.8
9	1.2	3.1	4.4	---	---	---	4.4	3.1	3.4	18	52	3.8
10	1.7	3.1	4.4	---	---	---	4.4	3.1	3.4	18	52	3.8
11	3.3	3.1	4.5	---	---	---	4.4	3.1	3.4	18	52	3.8
12	3.3	3.1	4.7	---	---	---	4.4	3.1	3.5	18	51	3.8
13	3.3	3.1	5.6	---	---	---	4.5	3.1	3.5	18	51	3.8
14	3.3	3.1	5.4	---	---	---	4.6	3.1	3.5	18	51	3.8
15	3.4	3.1	5.5	---	---	---	4.6	3.2	3.5	15	50	3.8
16	3.3	3.1	5.2	---	---	---	4.6	3.1	3.5	13	50	3.7
17	3.2	3.1	5.0	---	---	---	4.6	3.1	3.5	13	49	3.7
18	3.2	3.1	4.7	---	---	---	4.7	3.2	3.5	19	49	3.8
19	3.2	3.1	4.7	---	---	---	5.1	3.2	3.5	22	48	3.8
20	3.1	3.5	4.7	---	---	---	4.9	3.2	3.5	22	48	3.8
21	3.1	3.6	4.6	---	---	---	5.0	3.2	3.5	22	48	3.8
22	3.1	4.3	4.4	---	---	---	4.9	3.2	3.5	22	47	3.7
23	3.1	3.9	4.4	---	---	---	4.9	3.2	3.5	22	47	3.6
24	3.1	4.0	4.4	---	---	---	4.9	3.2	3.5	27	46	3.5
25	3.1	4.2	4.4	---	---	4.2	4.9	3.3	3.5	33	64	3.4
26	3.2	4.2	4.4	---	---	4.2	4.9	3.3	3.5	33	63	3.4
27	3.1	4.2	4.4	---	---	4.2	4.9	3.3	3.5	32	36	3.5
28	3.1	4.2	4.4	---	---	4.2	4.9	3.3	3.5	32	8.2	3.6
29	3.1	4.2	4.4	---	---	4.2	5.0	3.3	3.5	32	8.2	3.6
30	3.1	4.2	4.9	---	---	4.3	5.0	3.3	2.3	32	8.2	3.6
31	3.1	---	---	---	---	4.3	---	3.3	---	36	8.2	---
TOTAL	78.34	103.4	---	---	---	---	138.9	110.5	103.1	634	1395.8	114.4
MEAN	2.53	3.45	---	---	---	---	4.63	3.56	3.44	20.5	45.0	3.81
MAX	3.4	4.3	---	---	---	---	5.1	5.0	3.5	36	79	8.2
MIN	.76	3.1	---	---	---	---	4.3	3.0	2.3	11	8.2	2.1
AC-FT	155	205	---	---	---	---	276	219	204	1260	2770	227

11405200 WEST BRANCH FEATHER RIVER BELOW HENDRICKS DIVERSION DAM, NEAR STIRLING CITY, CA

LOCATION.--Lat 39°56'03", long 121°31'43", in NW 1/4 SE 1/4 sec.16, T.24 N., R.4 E., Butte County, Hydrologic Unit 18020121, on right bank 200 ft upstream from road bridge, 1,800 ft downstream from Hendricks Diversion Dam, and 1.9 mi north of Stirling City.

DRAINAGE AREA.--46.1 mi^2.

PERIOD OF RECORD.--August 1986 to current year (low-flow records only).

GAGE.--Water-stage recorder. Elevation of gage is 3,210 ft above sea level, from topographic map.

REMARKS.--No records computed above 40 ft^3/s. Most of the water is diverted at Hendricks Diversion Dam to the Hendricks Canal and Toadtown Canal (station 11389800) and then to De Sabla Powerplant (station 11389750) on Butte Creek.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	34	---	---	---	---	---	---	21	18	19
2	19	19	19	---	---	---	---	---	---	20	17	20
3	19	19	19	---	---	---	---	---	---	20	16	19
4	19	19	---	---	---	---	---	---	---	19	16	19
5	19	19	---	---	---	---	---	---	---	19	17	19
6	19	19	---	---	---	---	---	---	---	19	20	19
7	19	19	---	---	---	---	---	---	---	19	19	18
8	19	19	---	---	---	---	---	---	---	19	18	18
9	19	19	---	---	---	---	---	---	29	20	18	18
10	18	19	---	---	---	---	---	---	24	19	19	18
11	19	19	---	---	---	---	---	---	20	19	20	18
12	19	19	---	---	---	---	---	---	18	20	19	18
13	19	18	---	---	---	---	---	---	19	20	19	19
14	18	18	---	---	---	---	---	---	17	21	19	20
15	18	18	---	---	---	---	---	---	18	21	19	20
16	19	18	---	---	---	---	---	---	19	22	19	20
17	18	27	---	---	---	---	---	---	19	22	19	20
18	19	---	---	---	---	---	---	---	19	22	19	20
19	19	---	---	---	---	---	---	---	19	23	19	20
20	19	---	---	---	---	---	---	---	21	27	26	20
21	19	---	---	---	---	---	---	---	21	23	20	20
22	19	---	---	---	---	---	---	39	21	17	19	20
23	19	---	---	---	---	---	---	37	21	18	18	20
24	19	37	---	---	---	---	---	38	21	20	18	20
25	19	21	---	---	---	---	---	35	21	21	20	20
26	19	19	---	---	---	---	---	36	21	19	20	20
27	19	19	---	---	---	---	---	---	22	17	20	20
28	19	19	---	---	---	---	---	---	20	17	19	20
29	20	19	---	---	---	---	---	---	19	19	19	20
30	20	19	---	---	---	---	---	---	24	19	20	20
31	19	---	---	---	---	---	---	---	---	19	19	---
TOTAL	587	---	---	---	---	---	---	---	---	621	588	582
MEAN	18.9	---	---	---	---	---	---	---	---	20.0	19.0	19.4
MAX	20	---	---	---	---	---	---	---	---	27	26	20
MIN	18	---	---	---	---	---	---	---	---	17	16	18
AC-FT	1160	---	---	---	---	---	---	---	---	1230	1170	1150

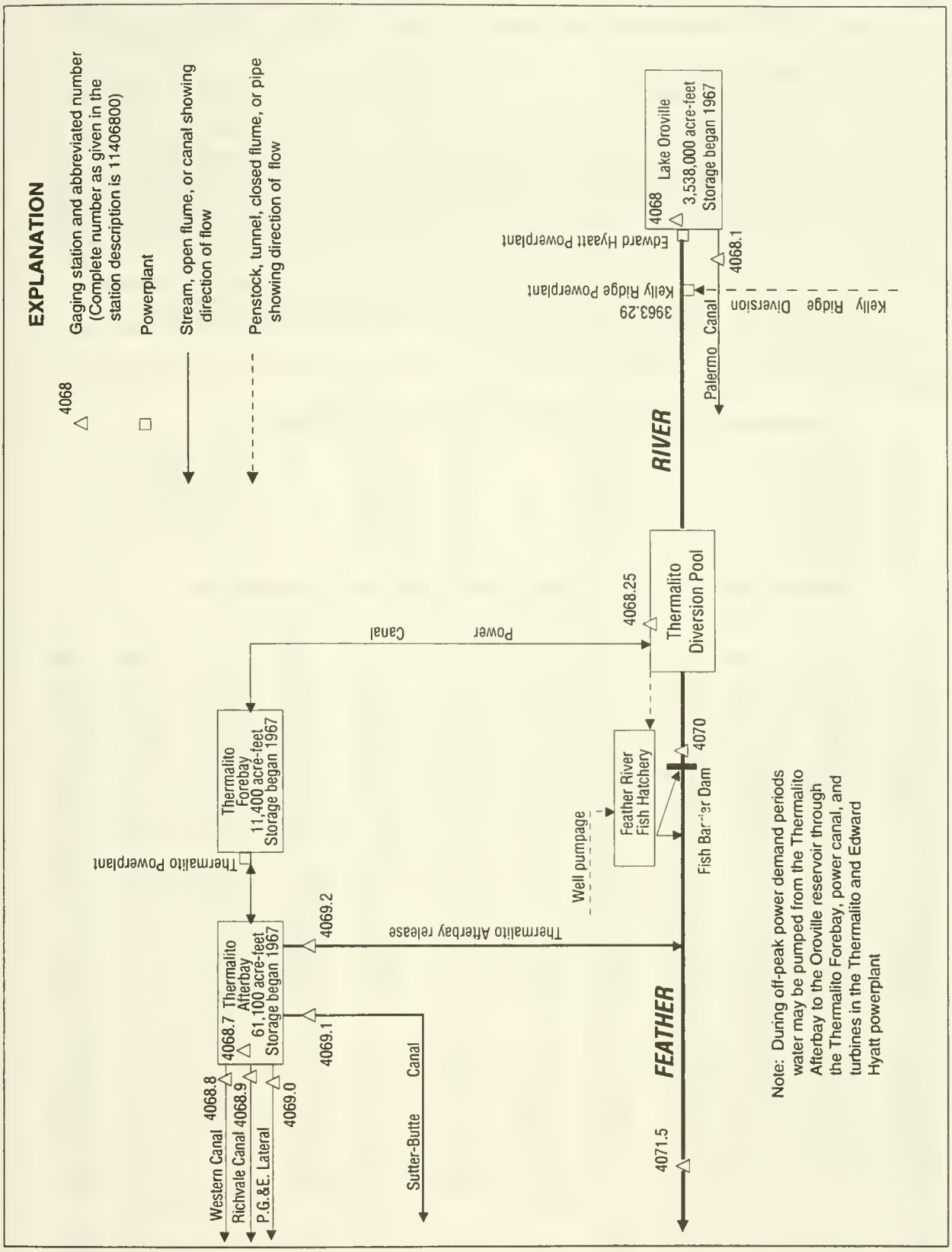

Figure 30. Diversions and storage from Feather River at Lake Oroville.

11406800 LAKE OROVILLE NEAR OROVILLE, CA

LOCATION.--Lat 39°32'06", long 121°28'25", in NE 1/4 SW 1/4 sec.1, T.19 N., R.4 E., Butte County, Hydrologic Unit 18020123, near intake structure at left end of Oroville Dam on Feather River, 1.0 mi downstream from North Fork Feather River, and 4.2 mi east of Oroville.

DRAINAGE AREA.--3,607 mi^2.

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above sea level (levels by California Department of Water Resources). Contents based on capacity table in use since Sept. 21, 1967.

REMARKS.--Reservoir is formed by an earthfill dam with concrete chute-type sidehill spillway completed May 13, 1968; storage began Nov. 14, 1967. Usable capacity, 2,685,385 acre-ft between elevations 640.0 ft, minimum power pool, and 900.0 ft, normal maximum pool. Dead storage, 852,192 acre-ft. Total capacity at normal maximum pool, 3,537,577 acre-ft; temporary detention storage occurred at times during construction; maximum was 155,200 acre-ft, Dec. 23, 1964. Water is released to Edward Hyatt Powerplant through penstock in left abutment of dam and to Palermo Canal (station 11406810) through concrete tunnel also in left abutment of dam. Three of the total of six turbines in the Edward Hyatt Powerplant are reversible and during periods of low power demand water is pumped at times from the river back into Lake Oroville. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville. Maximum inflow of 266,000 ft^3/s during a 2-hour period Feb. 17, 1986.

COOPERATION.--Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,536,000 acre-ft, June 4, 1973, gage height, 899.88 ft; minimum since initial storage began, 882,395 acre-ft, Sept. 7, 1977, gage height, 645.11 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,332,558 acre-ft, Jan. 2, gage height, 886.75 ft; minimum, 2,139,728 acre-ft, Sept. 30, gage height, 795.35 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated Sept. 21, 1967)

640	852,192	710	1,332,547	780	1,974,240	850	2,808,349
650	911,975	720	1,413,685	790	2,080,969	860	2,944,741
660	974,560	730	1,498,175	800	2,191,742	870	3,085,747
670	1,040,003	740	1,586,086	810	2,306,597	880	3,231,454
680	1,108,406	750	1,677,554	820	2,425,571	890	3,382,038
690	1,179,915	760	1,772,690	830	2,548,850	900	3,537,577
700	1,254,634	770	1,871,511	840	2,676,446		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2735516	2678782	2723026	3226424	2841074	2672814	2969643	3225685	3194729	2950851	2421339	2204628
2	2734463	2676056	2718304	3332558	2821513	2675537	2973132	3225389	3190764	2928136	2405295	2195354
3	2734331	2675667	2711623	3315024	2797497	2670351	2977322	3233084	3185483	2906232	2408185	2191065
4	2733147	2670481	2706784	3235307	2770302	2665042	2990060	3241093	3178598	2891967	2390643	2185881
5	2731831	2665042	2731305	3137218	2743293	2657029	3007056	3235307	3174648	2878160	2372832	2181606
6	2731436	2658449	2738282	3038133	2717386	2660387	3020165	3231602	3166173	2866849	2355113	2188472
7	2728542	2651996	2751086	2955715	2697384	2666207	3024968	3229977	3167487	2851365	2337014	2192644
8	2727623	2651094	2765390	2897310	2676186	2677225	3030908	3230569	3175964	2830945	2319129	2183293
9	2725784	2657803	2784677	2846216	2658062	2687226	3036432	3234121	3165297	2811971	2320068	2179358
10	2725258	2662843	2851500	2803924	2643753	2689177	3036998	3241242	3161213	2793220	2333005	2173072
11	2723551	2658708	2875432	2775753	2632575	2697644	3039975	3250753	3153928	2774290	2320890	2169262
12	2721845	2654576	2882393	2758894	2624629	2703647	3054752	3244806	3148836	2762207	2305778	2163891
13	2718041	2650063	2876796	2743821	2620919	2712278	3068864	3242281	3142588	2747386	2291666	2170943
14	2714242	2646713	2854348	2727097	2619256	2722764	3071292	3238273	3138814	2729989	2279816	2173297
15	2711492	2643367	2823668	2714373	2622326	2733410	3076152	3231750	3138379	2710184	2267432	2173297
16	2707045	2650191	2799772	2704432	2632960	2749764	3080731	3227016	3129104	2689308	2264776	2170718
17	2703779	2660129	2787078	2699079	2638609	2765257	3086176	3225685	3118838	2669444	2279468	2167135
18	2700645	2667372	2770967	2693604	2645554	2779347	3094354	3235307	3107299	2648516	2269859	2162550
19	2699731	2677096	2753598	2689308	2656770	2790281	3120716	3233380	3093349	2637582	2254519	2156633
20	2696731	2685536	2738941	2689698	2665560	2801111	3140700	3234269	3083452	2636682	2241772	2164339
21	2695298	2686836	2725127	2689698	2674370	2815732	3147963	3226720	3075294	2619256	2229761	2171391
22	2692822	2690348	2711361	2716469	2684106	2836479	3157569	3219034	3082450	2597587	2219161	2163556
23	2691130	2703125	2699079	2725127	2694516	2856384	3167195	3213425	3070435	2576169	2217909	2158753
24	2690219	2711492	2686706	2704562	2694386	2871615	3176696	3217262	3055036	2552489	2228734	2151730
25	2688917	2710183	2679691	2740655	2692953	2886083	3185776	3223319	3039550	2532081	2220071	2147946
26	2686316	2707437	2687746	2832429	2690348	2899367	3198256	3229532	3023555	2514397	2206101	2148391
27	2684756	2701167	2707306	2872569	2684756	2910218	3207380	3218000	3006212	2515142	2191404	2155630
28	2683067	2708353	2685926	2883213	2675667	2923718	3207822	3206644	2996654	2497911	2184193	2159646
29	2685666	2709530	2672294	2883486	---	2939894	3216376	3195023	2987677	2480148	2187693	2152621
30	2685536	2715028	2741974	2873387	---	2957106	3222432	3185043	2970340	2460638	2194789	2139728
31	2683587	---	2929103	2860050	---	2962255	---	3187389	---	2441723	2201797	---
MAX	2735516	2715028	2929103	3332558	2841074	2962255	3222432	3250753	3194729	2950851	2421339	2204628
MIN	2683067	2643367	2672294	2689308	2619256	2657029	2969643	3185043	2970340	2441723	2184193	2139728
a	840.55	842.96	858.87	853.83	839.94	861.26	879.39	877.01	861.84	821.33	800.89	795.35
b	-51929	+31441	+214075	-69053	-184383	+286588	+260177	-35043	-217049	-528617	-239926	-62069
c	5139	1614	1167	862	1844	3272	4394	7188	7823	10116	8173	7001

CAL YR 1996 b +227022
WTR YR 1997 b -595788

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey

11406810 PALERMO CANAL NEAR OROVILLE, CA

LOCATION.--Lat 39°31'59", long 121°28'54", in SW 1/4 SW 1/4 sec.1, T.19 N., R.4 E., Butte County, Hydrologic Unit 18020106, on right bank 50 ft downstream from Oroville Dam and 4.4 mi east of Oroville.

PERIOD OF RECORD.--April 1965 to current year. Daily discharge records of diversion from Kelly Ridge Penstock for period April 1965 to October 1968, when Kelly Ridge Penstock supplied the entire flow of Palermo Canal, are in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 547.67 ft above sea level (levels by California Department of Water Resources). April 1965 to October 1968, water-stage recorder and Parshall flume at site of diversion from Kelly Ridge Penstock, 0.4 mi downstream at different datum.

REMARKS.--Canal diverts from left end of Oroville Dam. Water is used for irrigation near Oroville. During period of construction of Oroville Dam, water was released from Kelly Ridge Penstock to meet irrigation requirements. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records were provided by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft^3/s, several days during July to September 1967; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	3.3	3.0	.00	2.0	2.2	6.9	15	18	18	19	19
2	17	3.3	3.0	.00	2.0	2.2	6.9	17	18	18	19	19
3	17	3.3	3.0	.00	2.0	2.3	6.9	18	18	18	19	19
4	17	3.3	3.1	.00	2.0	2.2	7.0	18	18	18	19	19
5	17	3.3	3.1	.00	2.0	2.3	7.0	18	18	18	19	19
6	17	3.3	3.1	1.7	2.0	3.3	7.0	18	18	18	19	19
7	17	3.3	3.2	2.6	2.0	5.1	6.9	18	18	18	19	19
8	17	3.3	3.1	2.6	2.0	5.1	6.9	18	18	18	19	19
9	17	3.3	3.0	2.6	2.0	5.0	8.8	18	18	18	19	19
10	17	3.3	3.1	2.7	2.0	4.9	10	18	18	18	19	19
11	17	3.3	3.1	3.2	2.0	4.9	10	18	18	18	19	19
12	17	3.3	3.1	3.2	2.0	4.9	10	18	18	18	19	19
13	17	3.3	3.1	3.0	2.0	4.9	10	18	18	18	19	19
14	17	3.3	3.1	3.0	2.0	5.0	15	18	18	18	19	19
15	17	3.3	3.0	3.0	2.1	5.1	18	18	18	18	19	16
16	17	3.2	3.0	3.0	2.1	5.1	18	18	18	19	19	15
17	16	3.0	3.0	3.0	2.1	5.2	18	18	18	19	19	15
18	14	3.0	3.0	3.0	2.1	5.2	18	18	18	19	19	15
19	13	3.0	3.0	3.0	2.1	5.3	18	18	18	19	19	15
20	13	3.0	3.0	3.0	2.1	5.3	18	18	18	19	19	15
21	11	3.0	3.0	3.0	2.1	5.3	11	18	18	19	19	15
22	10	3.0	3.0	1.3	2.1	5.3	8.2	18	18	19	19	15
23	10	3.1	3.0	.00	2.0	5.3	13	18	18	19	19	15
24	7.5	3.1	3.0	.00	2.0	5.2	15	18	18	19	19	15
25	5.5	3.0	3.0	.00	2.1	4.7	15	18	18	19	19	15
26	5.6	3.0	3.0	.00	2.1	4.8	15	18	18	19	19	15
27	5.7	3.0	1.1	1.4	2.0	5.9	15	18	18	19	19	15
28	5.6	3.0	.00	2.0	2.1	6.9	15	18	18	19	19	15
29	5.5	3.0	.00	2.0	---	6.9	15	18	18	19	19	15
30	3.9	3.0	.00	2.0	---	6.7	15	18	18	19	19	15
31	3.3	---	.00	2.0	---	6.9	---	18	---	19	19	---
TOTAL	401.6	94.9	80.20	56.30	57.1	149.4	364.5	554	540	574	589	507
MEAN	13.0	3.16	2.59	1.82	2.04	4.82	12.1	17.9	18.0	18.5	19.0	16.9
MAX	17	3.3	3.2	3.2	2.1	6.9	18	18	18	19	19	19
MIN	3.3	3.0	.00	.00	2.0	2.2	6.9	15	18	18	19	15
AC-FT	797	188	159	112	113	296	723	1100	1070	1140	1170	1010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

MEAN	12.4	5.25	3.32	2.71	2.35	2.81	6.29	14.5	19.0	19.5	19.8	18.8
MAX	18.0	8.56	5.94	5.12	5.33	6.22	19.1	22.3	24.5	24.5	24.5	22.8
(WY)	1979	1994	1975	1971	1974	1988	1970	1976	1976	1975	1978	1975
MIN	6.85	2.04	.000	.21	.000	.000	.000	3.21	13.4	16.0	16.2	13.8
(WY)	1973	1983	1982	1995	1975	1979	1991	1995	1993	1991	1991	1985

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1969 - 1997	
ANNUAL TOTAL	3585.40		3968.00			
ANNUAL MEAN	9.80		10.9		10.6	
HIGHEST ANNUAL MEAN					13.3	1970
LOWEST ANNUAL MEAN					7.54	1995
HIGHEST DAILY MEAN	19	Aug 23	19	Jul 16	26	Jul 2 1975
LOWEST DAILY MEAN	.00	Jan 17	.00	Dec 28	.00	Jan 15 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 17	.00	Dec 28	.00	Jan 15 1970
ANNUAL RUNOFF (AC-FT)	7110		7870		7690	
10 PERCENT EXCEEDS	19		19		21	
50 PERCENT EXCEEDS	5.4		15		8.9	
90 PERCENT EXCEEDS	.63		2.0		1.4	

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA

LOCATION.--Lat 39°27'30", long 121°38'17", in NE 1/4 SE 1/4 sec.33, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, at dam 195 ft northeast of centerline of outlet structure and 5.7 mi southwest of Oroville.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft above sea level (levels by California Department of Water Resources). Auxiliary water-stage recorder 90 ft southwest of centerline of Western Canal outlet, and 7.2 mi west of Oroville.

REMARKS.--Reservoir is formed by an earthfill dam completed in 1967. Diversion from the reservoir began Oct. 12, 1967. Usable capacity, 61,144 acre-ft between gage heights 120.0 and 139.0 ft, extreme operating levels. Normal operating range is 123 to 136.5 ft. Water is released to four canals (stations 11406880, 11406890, 11406900, and 11406910) and to the Feather River (station 11406920) from the reservoir. Total maximum release to the four canals is approximately 4,000 ft^3/s. Water is pumped, at times, from Thermalito Afterbay back into Thermalito Forebay during off-peak periods to be re-released through Thermalito Powerplant for power generation during peak-demand periods. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 57,300 acre-ft, May 24, 1969, gage height, 136.56 ft; minimum since initial operation began, 5,590 acre-ft, Mar. 1, 1968, gage height, 119.09 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 51,644 acre-ft, Aug. 8, gage height, 135.22 ft; minimum, 14,254 acre-ft, Oct. 9, gage height, 123.61 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated Oct. 10, 1968)

119	5,465	124	15,157	130	32,150
120	7,054	126	20,171	134	46,719
122	10,792	128	25,832	139	68,198

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14277	20332	25532	39302	39522	29737	33867	27196	26191	29417	49842	23630
2	14690	21744	29801	37639	39412	23373	39558	30737	23602	34896	50412	29545
3	14529	21196	36643	37389	39193	22411	44220	26041	24470	40072	32285	32251
4	14713	24121	43147	37460	39448	26981	41822	20199	30187	39925	35590	35800
5	14806	27782	48270	37747	39631	35451	33358	25951	32786	35625	38322	38394
6	14621	32752	48070	38647	39925	37818	27844	31424	38720	30445	40553	32085
7	14876	38250	37890	39595	37962	40405	31129	34449	34140	29067	46090	26951
8	14946	37425	26312	40257	38106	39011	31589	34483	23458	31985	51644	34655
9	14254	31227	30737	40701	38394	34414	34862	32786	30090	34966	39448	37603
10	14437	24734	28280	40590	38394	39083	39962	26464	31194	35870	19378	41671
11	14323	25443	25951	40961	38611	39558	44298	17808	32251	37675	21744	44413
12	14876	27319	25087	41110	38611	42690	35486	23344	31754	32118	29833	48550
13	14783	30090	25146	41446	38647	43567	28093	27380	32451	30380	37175	42880
14	15226	31424	26615	41446	40442	42728	32551	32451	28846	31260	42085	39668
15	14760	32954	27689	41297	40812	42010	33697	38647	22748	34346	48230	38539
16	14992	28972	27473	41260	37926	38178	34896	45736	24587	36820	42349	40812
17	14829	20092	24383	40331	42425	37854	35486	46681	25831	39521	21855	42766
18	14806	25711	22467	40590	46286	37890	36080	37675	29099	43836	21524	46365
19	14992	28973	20252	40516	45854	40072	25592	40368	33833	37747	30380	49680
20	14876	33528	19747	37639	44995	42236	18520	37389	35382	21662	36608	43951
21	14713	39375	20439	38142	39815	41036	24499	39741	33868	22833	43070	35660
22	14806	41521	22327	40812	32318	35035	29769	42576	18213	28249	46326	41671
23	14783	36115	24353	39558	23088	29769	33392	44220	20600	32786	40109	46208
24	15109	31293	24295	39888	24150	29417	35835	38034	26312	39193	23832	49923
25	14806	31688	22077	41222	26312	29577	36502	29099	32418	44762	24675	51602
26	14598	35800	26494	40775	27906	28343	37568	20226	38358	47076	33190	47950
27	15132	43299	32019	39962	30802	33970	38070	25981	40590	30640	45112	35347
28	14899	37104	31096	39999	32954	33426	33970	32019	34827	34106	45112	26889
29	14876	35975	31359	39083	---	30445	29865	39705	26433	36080	45345	26798
30	14783	32685	32085	39229	---	25831	27319	44762	27875	40961	36998	30348
31	15914	---	33970	39778	---	31556	---	39120	---	43951	27782	---
MAX	15914	43299	48270	41446	46286	43567	44298	46681	40590	47076	51644	51602
MIN	14254	20092	19747	37389	23088	22411	18520	17808	18213	21662	19378	23630
a	124.32	130.16	130.54	132.18	130.24	129.82	128.49	132.00	128.67	133.29	128.64	129.45
b	+143	+16771	+1285	+5808	-6824	-1398	-4237	+11801	-11245	+16076	-16169	+2566
c	898	497	421	354	582	963	1365	1751	1848	2312	2171	2029

CAL YR 1996 b -10019
WTR YR 1997 b +14577

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

11406880 WESTERN CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020105, on left bank 500 ft downstream from Thermalito Afterbay Dam and 7.3 mi west of Oroville.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft above sea level (levels by California Department of Water Resources).

REMARKS.--Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,200 ft^3/s, May 12, 1981, May 6, 7, 1984, May 6-8, 1990, May 3-5, 1994, May 10-13, 1996, May 3-9, 1997; no flow at times each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	518	197	.00	.00	.00	.00	1110	783	946	878	117
2	213	518	198	.00	.00	.00	.00	1180	773	938	878	68
3	243	518	198	.00	.00	.00	.00	1200	759	950	878	49
4	263	502	189	.00	.00	.00	.00	1200	720	958	878	50
5	263	488	161	.00	.00	.00	.00	1200	684	958	859	50
6	275	488	148	.00	.00	.00	.00	1200	673	958	848	49
7	297	505	146	.00	.00	.00	.00	1200	673	958	849	50
8	307	518	146	.00	.00	.00	.00	1200	701	981	831	50
9	308	507	120	.00	.00	.00	.00	1200	765	998	805	50
10	321	497	75	.00	.00	.00	28	1140	830	987	797	50
11	338	446	43	.00	.00	.00	47	1070	859	978	788	50
12	338	367	30	.00	.00	.00	47	1020	885	978	779	38
13	338	321	29	.00	.00	.00	46	939	898	978	767	30
14	399	298	30	.00	.00	.00	78	844	883	979	746	30
15	469	298	31	.00	.00	.00	98	767	882	966	739	30
16	507	298	57	.00	.00	.00	121	748	898	958	722	30
17	535	297	77	.00	.00	.00	182	729	898	958	712	30
18	548	202	77	.00	.00	.00	198	697	898	946	667	30
19	534	148	78	.00	.00	.00	197	730	899	926	606	50
20	518	148	76	.00	.00	.00	197	773	899	917	562	50
21	517	149	78	.00	.00	.00	169	763	898	919	454	84
22	532	147	77	.00	.00	.00	180	748	904	906	379	108
23	580	146	77	.00	.00	.00	213	687	918	882	323	125
24	624	146	79	.00	.00	.00	223	647	918	856	297	150
25	654	148	78	.00	.00	.00	313	616	918	858	287	158
26	668	151	65	.00	.00	.00	530	597	918	859	251	158
27	668	155	18	.00	.00	.00	734	607	927	857	211	157
28	668	173	.00	.00	.00	.00	838	686	938	858	179	158
29	656	172	.00	.00	---	.00	930	760	938	871	159	158
30	587	189	.00	.00	---	.00	996	798	950	878	147	174
31	531	---	.00	.00	---	.00	---	798	---	878	147	---
TOTAL	13901	9458	2578.00	0.00	0.00	0.00	6365.00	27854	25487	28838	18423	2381
MEAN	448	315	83.2	.000	.000	.000	212	899	850	930	594	79.4
MAX	668	518	198	.00	.00	.00	996	1200	950	998	878	174
MIN	202	146	.00	.00	.00	.00	.00	597	673	856	147	30
AC-FT	27570	18760	5110	.00	.00	.00	12620	55250	50550	57200	36540	4720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

MEAN	259	229	110	25.8	.000	.45	151	683	694	775	651	166
MAX	539	607	365	155	.000	12.4	566	930	959	1032	890	305
(WY)	1975	1975	1977	1977	1968	1972	1977	1985	1981	1981	1981	1995
MIN	95.2	38.9	.000	.000	.000	.000	1.00	271	477	504	456	49.9
(WY)	1990	1974	1971	1969	1968	1968	1982	1995	1983	1970	1970	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	126850.00		135285.00			
ANNUAL MEAN	347		371		314	
HIGHEST ANNUAL MEAN					403	1981
LOWEST ANNUAL MEAN					217	1983
HIGHEST DAILY MEAN	1200	May 10	1200	May 3	1200	May 12 1981
LOWEST DAILY MEAN	.00	Jan 11	.00	Dec 28	.00	Dec 4 1967
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 11	.00	Dec 28	.00	Jan 5 1968
ANNUAL RUNOFF (AC-FT)	251600		268300		227200	
10 PERCENT EXCEEDS	923		928		826	
50 PERCENT EXCEEDS	193		189		206	
90 PERCENT EXCEEDS	.00		.00		.00	

11406890 RICHVALE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'19", long 121°41'06", in SW 1/4 NW 1/4 sec.18, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020105, on right bank 500 ft downstream from axis of Thermalito Afterbay Dam and 7.3 mi west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

REVISED RECORDS.--WDR CA-91-4: 1990.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft above sea level (levels by California Department of Water Resources).

REMARKS.--Canal diverts from Thermalito Afterbay; water is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 511 ft^3/s, May 16, 1974; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	239	272	76	.00	.00	.00	394	281	403	389	90
2	10	238	274	.00	.00	.00	.00	393	284	404	388	84
3	10	238	275	.00	.00	.00	.00	392	307	404	386	74
4	10	238	275	.00	.00	.00	.00	351	319	403	389	59
5	10	262	274	.00	.00	.00	.00	334	318	403	389	48
6	10	273	275	22	.00	.00	.00	334	319	403	375	41
7	36	273	272	50	.00	.00	.00	374	319	404	369	44
8	70	273	274	64	.00	.00	.00	424	323	404	361	45
9	93	272	273	80	.00	.00	.00	439	329	404	350	28
10	113	272	255	83	.00	.00	29	418	335	403	346	15
11	125	274	241	83	.00	.00	51	386	346	403	342	15
12	128	273	239	83	.00	.00	67	379	361	402	325	5.8
13	128	274	235	83	.00	.00	107	379	375	403	309	.00
14	129	274	235	92	.00	.00	208	379	378	403	304	.00
15	191	273	235	99	.00	.00	220	379	388	404	294	.00
16	246	272	235	98	.00	.00	213	367	400	404	278	.00
17	279	272	234	98	.00	.00	214	338	404	404	271	.00
18	288	274	235	98	.00	.00	214	296	404	403	274	.00
19	289	273	235	98	.00	.00	220	284	404	403	254	.00
20	288	274	235	98	.00	.00	199	294	404	401	234	.00
21	258	273	235	99	.00	.00	184	299	403	404	229	.00
22	208	274	233	101	.00	.00	184	305	394	404	228	.00
23	201	272	235	100	.00	.00	212	329	394	404	205	15
24	228	273	235	55	.00	.00	223	312	394	403	192	32
25	238	274	231	.00	.00	.00	243	262	394	404	176	35
26	238	274	232	.00	.00	.00	254	246	394	403	169	35
27	238	274	233	.00	.00	.00	298	249	393	401	152	35
28	238	272	233	.00	.00	.00	388	249	393	396	130	35
29	238	273	233	.00	---	.00	423	265	400	389	125	42
30	238	272	232	.00	---	.00	407	281	400	389	110	54
31	238	---	236	.00	---	.00	---	283	---	389	102	---
TOTAL	5024	8042	7646	1660.00	0.00	0.00	4558.00	10414	10957	12451	8445	831.80
MEAN	162	268	247	53.5	.000	.000	152	336	365	402	272	27.7
MAX	289	274	275	101	.00	.00	423	439	404	404	389	90
MIN	10	238	231	.00	.00	.00	.00	246	281	389	102	.00
AC-FT	9970	15950	15170	3290	.00	.00	9040	20660	21730	24700	16750	1650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

MEAN	22.4	45.3	39.5	9.90	.000	.26	71.8	279	287	310	268	73.0
MAX	162	268	247	84.3	.000	6.32	201	436	400	402	373	154
(WY)	1997	1997	1997	1996	1969	1972	1972	1974	1979	1997	1974	1995
MIN	.000	.000	.000	.000	.000	.000	.000	104	129	140	130	8.43
(WY)	1972	1969	1969	1969	1969	1969	1983	1991	1991	1991	1991	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	66752.70		70028.80			
ANNUAL MEAN	182		192		119	
HIGHEST ANNUAL MEAN					192	1997
LOWEST ANNUAL MEAN					66.4	1991
HIGHEST DAILY MEAN	439	May 13	439	May 9	511	May 16 1974
LOWEST DAILY MEAN	.00	Jan 20	.00	Jan 2	.00	Sep 25 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 20	.00	Jan 25	.00	Oct 5 1968
ANNUAL RUNOFF (AC-FT)	132400		138900		86200	
10 PERCENT EXCEEDS	374		401		351	
50 PERCENT EXCEEDS	230		235		38	
90 PERCENT EXCEEDS	.00		.00		.00	

11406900 PACIFIC GAS & ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°29'22", long 121°41'12", in SE 1/4 NW 1/4 sec.19, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, on right bank 82 ft downstream from axis of Thermalito Afterbay Dam and 7.2 mi west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft above sea level (levels by California Department of Water Resources).

REMARKS.--Flow regulated at outlet works from Thermalito Afterbay; water is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 46 ft^3/s, Apr. 24, 1977, May 16, 1978; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.81	1.2	.00	.00	.00	.00	9.5	22	16	15	.00
2	.00	.87	1.2	.00	.00	.00	.00	6.5	22	16	15	.00
3	.00	.88	1.3	.00	.00	.00	.00	3.4	23	16	15	.00
4	.00	.88	1.4	.00	.00	.00	.00	2.7	22	16	14	.00
5	.00	.90	1.4	.00	.00	.00	.00	11	17	16	13	.00
6	.00	.94	1.5	.00	.00	.00	.00	17	14	16	13	.00
7	.00	1.0	1.4	.00	.00	.00	.00	13	12	15	12	.00
8	.00	1.0	1.3	.00	.00	.00	.00	5.2	8.8	15	12	.00
9	.00	.99	1.2	.00	.00	.00	.00	2.1	9.9	15	12	.00
10	.00	1.2	1.1	.00	.00	.00	.00	1.0	11	15	12	.00
11	9.4	1.2	.49	.00	.00	.00	.00	.00	14	15	11	.00
12	15	1.3	.00	.00	.00	.00	.00	.80	16	15	11	.00
13	15	1.3	.00	.00	.00	.00	.00	3.0	16	15	9.8	.00
14	15	1.3	.00	.00	.00	.00	.00	6.3	17	15	8.8	.00
15	15	1.2	.00	.00	.00	.00	.00	8.4	16	15	9.1	.00
16	15	1.2	.65	.00	.00	.00	.00	9.0	15	15	8.8	.00
17	9.6	1.0	1.1	.00	.00	.00	.00	10	15	15	8.6	.00
18	2.5	.94	.98	.00	.00	.00	.00	12	14	15	6.3	.00
19	1.0	1.0	.96	.00	.00	.00	11	13	14	15	5.0	.00
20	.99	1.2	.90	.00	.00	.00	17	13	15	15	4.9	.00
21	.90	1.3	.92	.00	.00	.00	17	8.0	15	15	4.1	.00
22	.98	1.3	.95	.00	.00	.00	32	4.5	15	15	2.5	.00
23	.97	1.3	1.0	.00	.00	.00	43	3.1	15	15	1.2	.00
24	.93	1.3	1.1	.00	.00	.00	40	1.4	16	15	1.1	.00
25	.90	1.2	1.0	.00	.00	.00	38	1.6	17	15	.42	.00
26	.82	1.3	1.0	.00	.00	.00	34	1.2	17	15	.00	.00
27	.79	1.3	.43	.00	.00	.00	23	1.4	17	14	.00	.00
28	.73	1.3	.00	.00	.00	.00	17	3.0	17	15	.00	.00
29	.70	1.3	.00	.00	---	.00	18	9.4	17	15	.00	.00
30	.70	1.3	.00	.00	---	.00	14	15	17	15	.00	.00
31	.72	---	.00	.00	---	.00	---	19	---	15	.00	---
TOTAL	107.63	34.01	24.48	0.00	0.00	0.00	304.00	214.50	476.7	470	225.62	0.00
MEAN	3.47	1.13	.79	.000	.000	.000	10.1	6.92	15.9	15.2	7.28	.000
MAX	15	1.3	1.5	.00	.00	.00	43	19	23	16	15	.00
MIN	.00	.81	.00	.00	.00	.00	.00	.00	8.8	14	.00	.00
AC-FT	213	67	49	.00	.00	.00	603	425	946	932	448	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

MEAN	.21	1.53	.68	.059	.000	.000	3.77	12.8	12.6	13.3	10.6	1.23
MAX	3.47	6.58	3.49	.51	.000	.000	14.8	23.2	18.3	17.1	13.9	2.62
(WY)	1997	1996	1987	1994	1969	1969	1977	1975	1981	1981	1995	1972
MIN	.000	.000	.000	.000	.000	.000	.000	6.55	8.60	9.37	7.12	.000
(WY)	1969	1969	1969	1969	1969	1969	1974	1994	1993	1970	1988	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	1725.12		1856.94			
ANNUAL MEAN	4.71		5.09		4.79	
HIGHEST ANNUAL MEAN					5.93	1981
LOWEST ANNUAL MEAN					3.67	1983
HIGHEST DAILY MEAN	34	May 9	43	Apr 23	46	Apr 24 1977
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Sep 9 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Sep 9 1968
ANNUAL RUNOFF (AC-FT)	3420		3680		3470	
10 PERCENT EXCEEDS	15		15		15	
50 PERCENT EXCEEDS	.90		.92		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11406910 SUTTER-BUTTE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°27'01", long 121°39'27", in NW corner of Boga Fernandez Grant, T.18 N., R.3 E., Butte County, Hydrologic Unit 18020105, on left bank 675 ft downstream from Thermalito Afterbay Dam and 6.8 mi southwest of Oroville.

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 109.97 ft above sea level (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 109.50 ft lower.

REMARKS.--Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,110 ft^3/s, Apr. 22-24, 1968; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	449	341	419	79	.00	.00	319	1690	1420	1550	1370	781
2	440	406	418	.00	.00	.00	326	1680	1380	1550	1360	764
3	438	420	417	.00	.00	.00	339	1670	1380	1560	1380	773
4	436	435	405	.00	.00	.00	339	1670	1370	1520	1380	806
5	430	433	407	.00	.00	.00	353	1660	1330	1510	1380	819
6	428	427	401	33	.00	.00	396	1670	1300	1520	1370	762
7	432	418	400	64	.00	.00	392	1700	1300	1520	1360	733
8	442	424	399	76	.00	.00	501	1710	1310	1530	1380	695
9	420	436	385	84	.00	.00	561	1710	1330	1560	1410	638
10	411	439	354	87	.00	.00	588	1670	1390	1560	1400	578
11	455	441	327	112	.00	.00	583	1630	1450	1530	1390	562
12	468	441	341	122	.00	.00	592	1640	1490	1510	1360	537
13	484	471	343	132	.00	172	604	1630	1500	1500	1320	526
14	539	506	368	142	.00	236	647	1570	1460	1490	1310	506
15	560	522	377	108	.00	247	698	1530	1460	1500	1300	493
16	627	521	380	.00	.00	232	806	1450	1440	1520	1260	466
17	645	519	378	.00	.00	186	903	1410	1490	1530	1250	440
18	645	515	379	.00	.00	203	1060	1370	1500	1530	1230	412
19	602	526	379	.00	.00	216	1090	1360	1490	1510	1220	396
20	555	513	379	.00	.00	203	1030	1390	1480	1500	1170	410
21	550	492	381	.00	.00	203	999	1460	1470	1470	1120	426
22	549	472	382	.00	.00	186	1040	1460	1460	1440	1040	431
23	558	476	383	.00	.00	187	1210	1430	1460	1420	1000	448
24	574	472	382	.00	.00	185	1290	1370	1470	1410	971	445
25	560	471	380	.00	.00	186	1260	1310	1510	1440	955	446
26	580	453	381	.00	.00	244	1340	1280	1570	1450	910	468
27	586	436	352	.00	.00	229	1470	1300	1610	1420	853	473
28	578	421	301	.00	.00	235	1570	1350	1610	1420	829	496
29	568	427	269	.00	---	243	1630	1400	1580	1410	827	499
30	514	429	277	.00	---	246	1700	1410	1570	1390	806	501
31	442	---	238	.00	---	263	---	1420	---	1380	787	---
TOTAL	15965	13703	11382	1039.00	0.00	4102.00	25636	47000	43580	46150	36698	16730
MEAN	515	457	367	33.5	.000	132	855	1516	1453	1489	1184	558
MAX	645	526	419	142	.00	263	1700	1710	1610	1560	1410	819
MIN	411	341	238	.00	.00	.00	319	1280	1300	1380	787	396
AC-FT	31670	27180	22580	2060	.00	8140	50850	93220	86440	91540	72790	33180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

MEAN	371	121	89.3	20.2	25.1	101	564	1405	1383	1473	1353	720
MAX	661	527	412	216	374	571	1294	1815	1643	1709	1608	893
(WY)	1975	1996	1996	1996	1977	1976	1968	1975	1975	1981	1982	1995
MIN	77.2	.000	.000	.000	.000	.000	.000	519	826	834	776	283
(WY)	1978	1975	1971	1969	1969	1978	1983	1977	1992	1991	1991	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	248659.00		261985.00			
ANNUAL MEAN	679		718		636	
HIGHEST ANNUAL MEAN					765	1976
LOWEST ANNUAL MEAN					401	1992
HIGHEST DAILY MEAN	1730	May 13	1710	May 8	2110	Apr 22 1968
LOWEST DAILY MEAN	.00	Jan 20	.00	Jan 2	.00	Jan 8 1968
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 20	.00	Jan 16	.00	Jan 8 1968
ANNUAL RUNOFF (AC-FT)	493200		519600		461100	
10 PERCENT EXCEEDS	1570		1510		1560	
50 PERCENT EXCEEDS	462		506		411	
90 PERCENT EXCEEDS	.00		.00		.00	

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER, NEAR OROVILLE, CA

LOCATION.--Lat 39°27'23", long 121°38'10", in NW 1/4 SE 1/4 sec.33, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, on left bank of outlet channel 955 ft downstream from centerline of Thermalito Afterbay Dam and 5.7 mi southwest of Oroville.

PERIOD OF RECORD.--November 1967 to current year.
WATER TEMPERATURE: Water years 1969-92.

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft above sea level (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 13.00 ft lower.

REMARKS.--Flow regulated by gates of Thermalito Afterbay outlet 955 ft upstream. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft^3/s, Jan. 28, 1970, gage height, 23.30 ft, datum then in use, 21,600 ft^3/s, Jan. 2, 1997, gage height, 11.45 ft; no flow for many days during 1968.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	345	788	11200	16700	10400	1290	570	2380	6930	6390	1890
2	1180	792	792	11100	16600	10400	1280	571	2380	6930	6400	1890
3	1180	790	791	16200	13800	9930	1080	571	2140	6920	6400	1680
4	1370	789	791	16100	12600	7950	872	570	1890	6920	6400	1480
5	1570	794	1710	16200	12600	5930	674	572	1890	6920	6390	1290
6	1780	791	4420	16100	12600	4030	574	573	1850	6920	6390	1180
7	1780	785	4440	16100	12600	2520	573	571	1650	6920	6140	1170
8	1780	791	4420	16100	12600	2390	571	571	1480	6920	5380	1180
9	1780	786	4430	16100	12600	2390	575	570	1620	6930	4640	1180
10	1780	786	8920	16500	12600	2180	573	567	2130	6920	3640	1170
11	1780	789	15000	16600	12600	1680	572	566	2390	6920	3380	1180
12	1780	787	16000	16600	12600	1480	571	571	2390	6920	2890	1180
13	1780	791	15300	16600	12000	1280	569	574	2390	6920	2880	1190
14	1780	788	15100	16700	10500	1270	572	575	2630	6930	2740	1190
15	1780	790	15100	16600	8450	1280	570	571	3110	6920	2380	1190
16	1240	791	14600	16100	6420	1280	573	570	3400	6920	3110	1190
17	792	789	13000	14000	5420	1280	571	569	3390	6920	3870	1190
18	791	791	13000	12500	5410	1280	571	570	3390	6920	4130	1180
19	796	793	13000	12500	5410	1280	570	740	3400	6910	3150	1180
20	793	792	12400	12500	6400	1280	568	1590	3400	6900	2560	1180
21	793	788	11600	12500	7920	1280	572	2050	3400	6910	2390	1170
22	791	789	11000	12500	8440	1270	573	2390	3390	6920	3130	1180
23	790	787	10400	13500	8430	1270	572	2390	3400	6920	3510	1180
24	789	780	9400	14100	8440	1280	572	2380	3900	6920	4390	1430
25	785	794	8380	14300	8440	1280	572	2380	3900	6410	4120	2180
26	590	794	7630	14500	8440	1270	570	2380	4150	6410	3140	2180
27	401	794	11300	14300	9430	1280	570	2390	4900	6400	2400	2430
28	138	789	15900	14100	10500	1280	570	2390	5900	6410	1880	3180
29	56	796	15700	14100	---	1280	569	2390	6900	6410	1890	3440
30	53	790	15600	14100	---	1280	571	2390	6930	6420	1890	3700
31	35	---	16100	15400	---	1290	---	2390	---	6420	1890	---
TOTAL	33913	23251	307012	455800	290550	85570	19480	38522	96070	210960	119890	48030
MEAN	1094	775	9904	14700	10380	2760	649	1243	3202	6805	3867	1601
MAX	1780	796	16100	16700	16700	10400	1290	2390	6930	6930	6400	3700
MIN	35	345	788	11100	5410	1270	568	566	1480	6400	1880	1170
AC-FT	67270	46120	609000	904100	576300	169700	38640	76410	190600	418400	237800	95270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

MEAN	1914	2420	4166	4627	4941	5524	4567	3514	3034	3670	3389	2844
MAX	5867	11020	15120	14700	14600	16890	15410	12340	9717	6805	7043	7085
(WY)	1975	1974	1984	1997	1983	1983	1983	1983	1983	1997	1974	1974
MIN	145	336	56.7	391	345	239	207	549	337	.13	116	398
(WY)	1978	1978	1968	1993	1968	1992	1992	1977	1990	1968	1968	1968

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	2115868		1729048			
ANNUAL MEAN	5781		4737		3815	
HIGHEST ANNUAL MEAN					9352	1983
LOWEST ANNUAL MEAN					970	1991
HIGHEST DAILY MEAN	16100	Dec 31	16700	Jan 14	21200	Jan 28 1970
LOWEST DAILY MEAN	35	Oct 31	35	Oct 31	.00	Nov 16 1967
ANNUAL SEVEN-DAY MINIMUM	231	Oct 26	231	Oct 26	.00	Nov 16 1967
INSTANTANEOUS PEAK FLOW			21600	Jan 2	21600	Jan 28 1970
INSTANTANEOUS PEAK STAGE			11.45	Jan 2	23.30	Jan 28 1970
ANNUAL RUNOFF (AC-FT)	4197000		3430000		2764000	
10 PERCENT EXCEEDS	13500		13600		9320	
50 PERCENT EXCEEDS	5410		2380		2220	
90 PERCENT EXCEEDS	792		572		492	

11407000 FEATHER RIVER AT OROVILLE, CA

LOCATION.--Lat 39°31'18", long 121°32'48", in Boga Fernandez Grant, T.19 N., R.4 E., Butte County, Hydrologic Unit 18020106, on right bank 300 ft upstream from fish barrier dam on Feather River, 0.4 mi downstream from Thermalito Diversion Dam, 0.8 mi northeast of Oroville Post Office, and 4.8 mi downstream from Oroville Dam.

DRAINAGE AREA.--3,624 mi^2.

PERIOD OF RECORD.--October 1901 to current year. Monthly discharge only for some periods, published in WSP 1315-A. October 1934 to September 1961 published as "near Oroville."
CHEMICAL DATA: Water years 1906-07, 1951-77.
SPECIFIC CONDUCTANCE: Water years 1972-78.
WATER TEMPERATURE: Water years 1954-92.
SEDIMENT DATA: Water years 1957-79.

REVISED RECORDS.--WSP 843: 1907(M), 1909(M), 1914-15(M), 1919(M), 1927-28(M). WSP 881: 1913-28 (yearly summaries). WSP 1515: 1906-8. WSP 1931: Drainage area. WDR CA-74-2: 1968-70, adjusted monthly discharge.

GAGE.--Water-stage recorder. Datum of gage is 148.97 ft above sea level (levels by California Department of Water Resources). See WSP 1931 for history of changes prior to Oct. 1, 1964.

REMARKS.--Flow completely regulated by Lake Oroville (station 11406800) beginning November 1967, and Thermalito Diversion Pool (station 11406825), capacity 13,500 acre-ft. Diversions upstream from station for power and irrigation. Feather River Fish Hatchery diverts up to 120 ft^3/s at Thermalito Diversion Dam 0.4 mi upstream from gage. Daily figures shown are combined figures of river flow and diversion to fish hatchery. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Prior to completion of Oroville Dam: Maximum discharge observed, 230,000 ft^3/s Mar. 19, 1907, elevation, 167.5 ft above sea level, site and datum then in use, maximum discharge (since completion of Oroville Dam), 161,000 ft^3/s, Jan. 2, 1997, gage height 25.45 ft; minimum, 300 ft^3/s, estimated, Nov. 9, 1931.
Combined flow (since completion of Oroville Dam): Maximum daily discharge, 132,000 ft^3/s, Feb. 18, 1986; minimum daily, 222 ft^3/s, Sept. 19, 1972.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 161,000 ft^3/s, Jan. 2, gage height, 25.45 ft; minimum daily, 510 ft^3/s, Jan. 19.
Combined flow: Maximum daily discharge, 126,000 ft^3/s, Jan. 2; minimum daily, 601 ft^3/s, Feb. 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	619	1750	1670	122000	13600	619	633	629	650	638	666	620
2	615	1670	1670	126000	13600	618	623	602	637	638	661	613
3	623	1670	1690	94800	16700	622	621	621	652	635	660	608
4	623	1670	1700	86900	17600	629	624	625	651	637	661	610
5	624	1620	1670	76000	16600	631	621	623	650	622	661	612
6	624	1620	1670	64700	14600	631	620	624	639	626	650	617
7	622	1620	1670	50400	12500	632	622	624	637	626	650	609
8	623	1620	1670	35300	10600	631	621	623	630	625	650	615
9	623	1610	1680	29100	8590	629	622	623	631	625	649	616
10	624	1600	1700	22500	6510	631	622	624	637	629	648	604
11	622	1620	4970	12300	4600	629	621	624	641	628	649	602
12	623	1620	8640	6060	2600	623	618	622	639	627	651	627
13	625	1620	9320	3530	1100	629	622	624	638	628	641	644
14	624	1620	9520	3540	618	629	619	634	638	627	646	648
15	625	1650	9540	2610	615	639	620	625	639	635	646	645
16	1340	1610	6020	972	614	648	618	626	637	638	634	657
17	1640	1610	1610	617	615	644	615	627	646	637	640	646
18	1610	1600	1660	606	615	634	635	638	644	620	628	645
19	1580	1620	1660	602	614	633	637	635	645	622	629	638
20	1610	1650	1620	640	620	634	631	648	633	624	641	636
21	1600	1630	1610	636	613	632	624	624	637	624	636	635
22	1640	1610	1620	831	601	637	626	625	641	621	631	630
23	1600	1590	1610	3660	601	669	628	627	641	626	631	630
24	1610	1600	1620	11100	610	632	627	635	639	630	631	630
25	1600	1630	1610	4700	607	635	626	625	632	625	631	629
26	1610	1590	1650	769	607	636	618	622	627	612	631	642
27	1600	1590	3110	5500	617	637	601	626	628	614	619	637
28	1830	1600	23700	16200	617	641	607	627	629	612	618	658
29	1860	1600	34600	16100	---	644	627	623	628	615	619	622
30	1860	1610	34600	16200	---	645	627	622	632	635	619	626
31	1870	---	62500	14300	---	645	---	638	---	640	619	---
TOTAL	35799	48720	239580	829173	148384	19668	18676	19415	19148	19441	19846	18851
MEAN	1155	1624	7728	26750	5299	634	623	626	638	627	640	628
MAX	1870	1750	62500	126000	17600	669	637	648	652	640	666	658
MIN	615	1590	1610	602	601	618	601	602	627	612	618	602
AC-FT	71010	96640	475200	1645000	294300	39010	37040	38510	37980	38560	39360	37390
MEAN a	2701	4301	21870	40530	12300	8260	6920	4420	2922	2191	2634	2082
AC-FTa	166100	255900	1345000	2492000	683200	507900	411700	271800	173900	134700	161900	123900

a Adjusted for unreviewed evaporation, change in contents, and diversions in and out of Lake Oroville, Thermalito Diversion Pool, Thermalito Forebay, and Thermalito Afterbay.

11407000 FEATHER RIVER AT OROVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1967, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2085	3069	5296	6790	9463	10080	12120	9930	5176	2505	1980	1792
MAX	12370	19710	28410	39860	28030	39760	30100	25150	15650	5999	3265	2883
(WY)	1963	1904	1956	1909	1904	1904	1911	1938	1911	1907	1967	1967
MIN	745	853	1102	1350	1714	1564	2146	1246	924	852	956	992
(WY)	1933	1933	1950	1947	1933	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1902 - 1967	
ANNUAL MEAN	5834	
HIGHEST ANNUAL MEAN	12860	1907
LOWEST ANNUAL MEAN	1623	1924
HIGHEST DAILY MEAN	187000	Mar 19 1907
LOWEST DAILY MEAN	577	Oct 3 1932
ANNUAL SEVEN-DAY MINIMUM	652	Sep 30 1932
INSTANTANEOUS PEAK FLOW	230000	Mar 19 1907
INSTANTANEOUS PEAK STAGE	167.5	Mar 19 1907
ANNUAL RUNOFF (AC-FT)	4226000	
10 PERCENT EXCEEDS	13300	
50 PERCENT EXCEEDS	2870	
90 PERCENT EXCEEDS	1470	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	549	751	1248	3326	2313	2159	1038	780	502	498	485	485
MAX	1580	3313	7728	26750	25180	18870	7064	7916	998	775	640	644
(WY)	1996	1982	1997	1997	1986	1995	1982	1995	1989	1992	1997	1988
MIN	399	397	392	401	399	404	401	387	405	404	393	389
(WY)	1969	1979	1979	1976	1978	1978	1977	1969	1974	1981	1979	1972

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1969 - 1997	
ANNUAL TOTAL	741056		1436701			
ANNUAL MEAN	2025		3936		1175	
ANNUAL MEAN ADJUSTED a	9448		9293		b 6165	
HIGHEST ANNUAL MEAN					3936	1997
LOWEST ANNUAL MEAN					404	1976
HIGHEST DAILY MEAN	62500	Dec 31	126000	Jan 2	132000	Feb 18 1986
LOWEST DAILY MEAN	608	Jun 2	601	Feb 22	222	Sep 19 1972
ANNUAL SEVEN-DAY MINIMUM	611	Mar 5	608	Feb 21	337	Sep 13 1972
INSTANTANEOUS PEAK FLOW			161000	Jan 2	161000	Jan 2 1997
INSTANTANEOUS PEAK STAGE			25.45	Jan 2	25.45	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	1470000		2850000		851000	
ANNUAL RUNOFF (AC-FT) ADJUSTED a	6859000		6728000		b 4467000	
10 PERCENT EXCEEDS	1840		5710		645	
50 PERCENT EXCEEDS	634		637		421	
90 PERCENT EXCEEDS	613		618		401	

a Adjusted for unreviewed evaporation, change in contents, and diversions in and out of Lake Oroville, Thermalito Diversion Pool, Thermalito Forebay, and Thermalito Afterbay.

b Includes water year 1968.

11407150 FEATHER RIVER NEAR GRIDLEY, CA

LOCATION.--Lat 39°22'00", long 121°38'46", in Boga Fernandez Grant, T.18 N., R.3 E., Butte County, Hydrologic Unit 18020106, on right bank 300 ft upstream from highway bridge and 2.7 mi east of Gridley.

DRAINAGE AREA.--3,676 mi^2.

PERIOD OF RECORD.--October 1964 to current year. January 1944 to September 1964 are published in reports by California Department of Water Resources.
CHEMICAL DATA: Water years 1979-81.
WATER TEMPERATURE: Water years 1965-93.
SEDIMENT DATA: Water years 1965-93.

REVISED RECORDS.--WDR CA-80-4: 1967(M), 1968(M).

GAGE.--Water-stage recorder. Datum of gage is 2.91 ft below sea level. Prior to Mar. 13, 1966, water-stage recorder on left bank, at same datum. Mar. 14, 1966, to Sept. 30, 1973, gage at present location, with datum 47.09 ft above sea level.

REMARKS.--Records good. Flow regulated by Lake Oroville since November 1967 (station 11406800) and Thermalito Afterbay release to Feather River since December 1967 (station 11406920). See schematic diagrams showing diversions and storage from Feather River at Lake Oroville and lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 151,000 ft^3/s, Dec. 23, 1964, gage height, 100.43 ft, present datum; minimum daily, 117 ft^3/s, June 27, 1966. Since completion of Oroville Dam in 1967, maximum discharge, 163,000 ft^3/s, Jan. 2, 1997, gage height recorded, 98.83 ft, 100.42 ft, from outside gage; minimum daily, 366 ft^3/s, July 26, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 102.25 ft, present datum, discharge unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1820	2030	2390	115000	31100	10800	1780	1230	3160	7520	6780	2460
2	1810	2440	2390	150000	31400	10800	1740	1240	3170	7530	6760	2440
3	1810	2460	2390	112000	31000	10400	1600	1250	3060	7560	6730	2280
4	1990	2450	2430	99800	31200	8830	1420	1260	2750	7600	6740	2100
5	2200	2400	2950	87700	30800	7210	1240	1280	2760	7590	6750	1930
6	2430	2380	5980	77500	28700	5660	1150	1280	2760	7610	6740	1820
7	2480	2410	6150	63600	26600	4140	1100	1290	2620	7640	6570	1790
8	2460	2390	6190	50800	24600	3780	1070	1310	2470	7660	5990	1790
9	2440	2410	6300	43100	22600	3710	1070	1320	2490	7640	5420	1780
10	2440	2410	9940	39800	20700	3540	1040	1330	2970	7620	4540	1780
11	2430	2400	18700	31100	18900	2990	1050	1330	3340	7570	4250	1770
12	2430	2410	25500	23900	17100	2760	1060	1350	3350	7540	3820	1770
13	2430	2430	25700	19900	14900	2530	1070	1370	3340	7510	3760	1760
14	2410	2400	25600	19400	12600	2470	1080	1370	3500	7510	3630	1760
15	2410	2420	25700	19000	10600	2430	1090	1380	4020	7500	3250	1770
16	2370	2420	23800	16900	8730	2420	1100	1400	4440	7490	3850	1780
17	2400	2430	15600	14400	7580	2390	1110	1410	4440	7470	4560	1740
18	2440	2430	15300	12400	7470	2320	1130	1420	4440	7430	4810	1740
19	2390	2450	15100	12200	7420	2260	1150	1470	4410	7430	3980	1700
20	2380	2450	14500	12200	7920	2230	1150	2110	4440	7400	3430	1690
21	2390	2450	13400	12100	9200	2210	1170	2540	4440	7390	3210	1720
22	2440	2440	12600	12600	9640	2160	1170	2950	4440	7380	3700	1730
23	2400	2390	12100	14300	9590	2150	1170	2990	4450	7350	4530	1730
24	2420	2390	11000	23500	9530	2080	1170	3000	4900	7340	4800	1870
25	2400	2410	10000	21800	9480	2050	1180	3010	4950	6940	4610	2540
26	2230	2380	9400	16500	9420	2020	1200	3040	5160	6900	3730	2570
27	2010	2390	13000	16900	9940	1980	1200	3040	5790	6860	3010	2690
28	1930	2370	35900	29200	10800	1920	1190	3150	6570	6850	2570	3540
29	1980	2380	55400	30300	---	1880	1210	3140	7390	6820	2500	3830
30	1920	2390	60300	30600	---	1860	1220	3150	7500	6820	2490	4170
31	1920	---	76400	30900	---	1820	---	3150	---	6800	2470	---
TOTAL	70010	72010	562110	1259400	469520	115800	36080	60560	123520	228270	139980	64040
MEAN	2258	2400	18130	40630	16770	3735	1203	1954	4117	7364	4515	2135
MAX	2480	2460	76400	150000	31400	10800	1780	3150	7500	7660	6780	4170
MIN	1810	2030	2390	12100	7420	1820	1040	1230	2470	6800	2470	1690
AC-FT	138900	142800	1115000	2498000	931300	229700	71560	120100	245000	452800	277700	127000

11407150 FEATHER RIVER NEAR GRIDLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2410	3124	5622	8192	7478	7930	5725	4300	3544	4282	3947	3375
MAX	6520	12940	22700	40630	34170	33530	22630	19010	9996	7364	7565	7872
(WY)	1975	1974	1984	1997	1986	1983	1982	1995	1983	1997	1974	1974
MIN	853	855	832	936	905	895	804	809	913	1708	1059	1002
(WY)	1978	1978	1978	1992	1991	1992	1991	1977	1990	1970	1991	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1969 - 1997	
ANNUAL TOTAL	2756860		3201300			
ANNUAL MEAN	7532		8771		4987	
HIGHEST ANNUAL MEAN					11880	1983
LOWEST ANNUAL MEAN					1394	1977
HIGHEST DAILY MEAN	76400	Dec 31	150000	Jan 2	150000	Jan 2 1997
LOWEST DAILY MEAN	1150	May 15	1040	Apr 10	602	May 21 1977
ANNUAL SEVEN-DAY MINIMUM	1570	May 10	1060	Apr 8	611	May 18 1977
INSTANTANEOUS PEAK FLOW			163000	Jan 2	163000	Jan 2 1997
INSTANTANEOUS PEAK STAGE			100.42	Jan 2	100.42	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	5468000		6350000		3613000	
10 PERCENT EXCEEDS	13700		21100		10100	
50 PERCENT EXCEEDS	5640		3040		2720	
90 PERCENT EXCEEDS	2380		1330		1080	

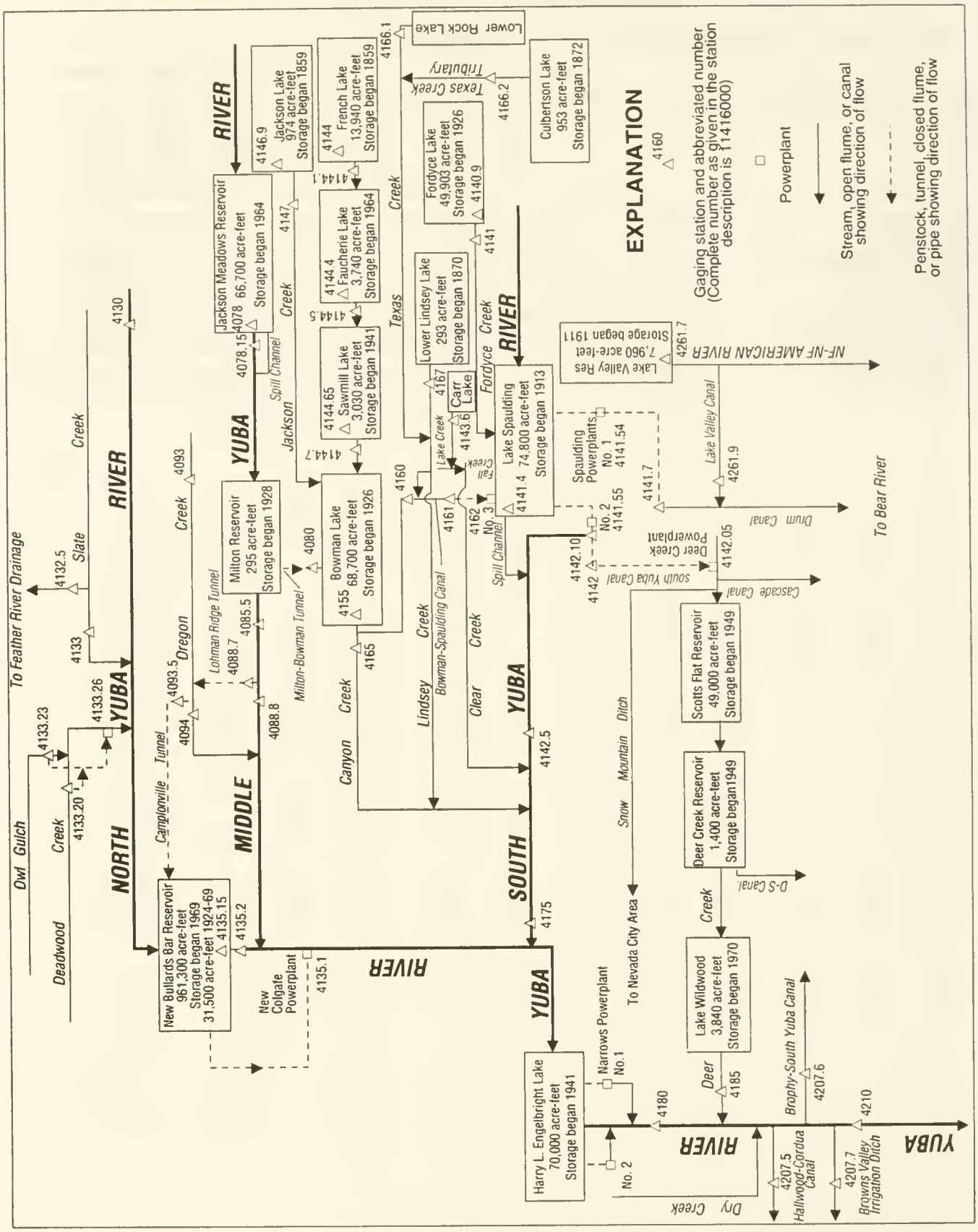

Figure 31. Diversions and storage in Yuba River basin.

11407800 JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'33", long 120°33'08", in NW 1/4 SE 1/4 sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank at Jackson Meadows Dam on Middle Yuba River, 0.7 mi downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.--37.6 mi^2.

PERIOD OF RECORD.--November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Nov. 9, 1964. Usable capacity, 66,700 acre-ft between elevations 5,933.0 ft, bottom of intake tower, and 6,036.0 ft, top of radial spillway gates. Dead contents, 2,500 acre-ft. Records, including extremes, represent total contents. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,100 acre-ft, May 31 and June 1, 1993, elevation, 6,037.78 ft; minimum since reservoir first filled, 2,500 acre-ft, Sept. 27-29, 1976, elevation, 5,933.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 70,300 acre-ft, May 17, elevation, 6,037.07 ft; minimum, 38,300 acre-ft, Dec. 4, elevation, unknown.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Nevada Irrigation District, dated February 1965)

5,930	2,000	5,990	27,600
5,940	3,920	6,000	35,300
5,950	6,760	6,010	43,900
5,960	10,600	6,020	53,200
5,970	15,400	6,030	63,000
5,980	21,000	6,040	73,500

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51700	43400	e38900	62300	54500	54000	54500	64900	69200	65600	60400	54700
2	51400	43200	e38500	59400	54500	54000	54400	65000	69100	65500	60200	54500
3	51200	42900	e38400	56700	54500	54100	54300	65100	69000	65400	60000	54300
4	51000	42600	e38300	55700	54400	54100	54300	65400	69200	65200	59800	54200
5	50700	42300	39500	55200	54400	54100	54200	65700	e69100	65000	59700	54000
6	50400	42100	39600	55000	54400	54000	54200	66200	e69000	64900	59400	53800
7	50100	41800	39600	54800	54400	54000	54100	66700	e68900	64700	59200	53600
8	49900	41600	39500	54700	54400	54000	54100	66200	e68900	64600	59000	53500
9	49600	41300	39700	54700	54400	54000	54100	66300	e68800	64400	58800	53300
10	49300	41100	40300	54600	54400	53900	54100	66800	68600	64200	58600	53100
11	49000	40800	41100	54500	54400	53900	54000	70200	68500	64000	58400	52900
12	48800	40500	43100	54500	54400	53800	54000	70200	68300	63900	58300	52700
13	48500	40300	44000	54500	54000	53700	53900	70200	68100	63700	58100	52600
14	48200	40000	44400	54400	54000	53700	54000	70200	67900	63500	57900	52400
15	47900	39800	44700	54400	54000	53600	54200	70200	67800	63400	57700	52200
16	47600	39500	44900	54400	54000	53600	54400	70300	67600	63200	57500	52100
17	47300	39700	45000	54400	54100	53600	54800	70300	67400	63000	57300	51900
18	47100	e40100	45100	54400	54000	53600	55200	70200	67300	62800	57200	51700
19	46800	e40100	45100	54400	54100	53600	56600	70000	67200	62600	56900	51500
20	46500	e40100	45300	55000	54000	53600	57600	69800	67100	62500	56800	51300
21	46300	e40100	45500	55000	54100	53700	58800	69800	67000	62300	56600	51200
22	46000	e40000	45700	54900	54100	53800	59700	69800	66900	62100	56500	51000
23	45700	e40000	45800	54800	54000	53900	61100	69700	66800	61900	56300	50800
24	45500	e39900	45800	54800	54000	54100	61800	69700	66600	61700	56100	50600
25	45300	e39800	45800	54800	54000	54400	62300	69700	66500	61600	55900	50200
26	45000	e39700	46200	54700	54000	54600	62900	69600	66400	61400	55700	49900
27	44700	e39300	46700	54600	54000	54700	63500	69500	66200	61200	55600	49600
28	44400	e39200	46900	54600	54000	54800	64200	69400	66100	61100	55400	49200
29	44200	e39200	47600	54600	---	54700	64600	69300	65900	60900	55200	48900
30	43900	e39100	50100	54600	---	54600	64900	69300	65800	60700	55000	48600
31	43600	---	54900	54500	---	54600	---	69300	---	60500	54800	---
MAX	51700	43400	54900	62300	54500	54800	64900	70300	69200	65600	60400	54700
MIN	43600	39100	38300	54400	54000	53600	53900	64900	65800	60500	54800	48600
a	6009.66		6021.84	6021.43	6020.90	6021.50	6031.82	6036.08	6032.71	6027.57	6021.75	6015.12
b	-8500	-4500	+15800	-400	-500	+600	+10300	+4400	-3500	-5300	-5700	-6200

CAL YR 1996 MAX 70900 MIN 34500 b +20500
WTR YR 1997 MAX 70300 MIN 38300 b -3500

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11407815 MIDDLE YUBA RIVER, CONTROLLED RELEASE AT JACKSON MEADOWS DAM, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'36", long 120°33'15", in NW 1/4 SE 1/4 sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, in outlet structure near right bank below Jackson Meadows Dam on Middle Yuba River, 0.7 mi downstream from Pass Creek, and 5.7 mi southeast of Sierra City.

DRAINAGE AREA.--37.6 mi^2.

PERIOD OF RECORD.--July 1994 to current year.

GAGE.--Ultrasonic meter measures flow in two outlet pipes. Elevation of gage is 5,910 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Jackson Meadows Reservoir (station 11407800). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 415 ft^3/s, May 23, 28, 1996; minimum daily, 7.9 ft^3/s, several days November 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	136	133	59	57	56	170	261	e208	e94	e90	91
2	142	136	133	59	57	56	170	261	e211	e93	e89	91
3	143	136	132	58	57	56	170	261	e214	e93	e89	91
4	143	135	132	58	57	56	169	261	e221	e93	e90	90
5	143	135	133	57	57	56	169	262	e215	e93	e89	91
6	142	135	133	57	57	56	170	262	e212	e93	e90	90
7	142	135	133	57	57	56	169	234	e211	e92	e90	90
8	142	135	133	57	57	56	169	218	e210	e92	e90	90
9	142	134	96	57	57	56	169	219	e204	e92	e90	90
10	141	134	51	57	57	56	169	219	e183	e92	e90	90
11	141	134	52	57	57	92	169	220	e182	e92	e90	90
12	141	134	52	57	57	136	169	220	e181	e92	e90	90
13	141	134	53	57	57	135	169	221	e182	e92	e90	90
14	140	133	53	57	57	136	169	221	e182	e91	e90	90
15	140	133	53	57	57	136	169	221	e181	e91	e89	90
16	140	133	53	57	57	136	169	221	e181	e91	e89	90
17	139	133	53	57	56	136	169	221	e162	e91	e89	90
18	133	134	54	57	56	136	169	221	e96	e91	e89	90
19	174	134	54	57	56	142	170	221	e95	e91	e91	90
20	174	134	54	57	56	165	171	221	e94	e91	e91	90
21	174	134	54	57	56	168	172	221	e94	e91	e90	90
22	154	134	54	57	56	170	173	220	e94	e91	e89	90
23	138	134	54	57	56	170	187	e221	e94	e91	88	90
24	138	134	54	57	56	170	207	e221	e94	e94	87	141
25	138	133	54	57	56	170	207	e221	e94	e91	87	180
26	138	133	54	57	56	170	208	e225	e93	e90	87	179
27	137	133	54	57	56	170	209	e216	e93	e90	91	179
28	137	133	54	57	56	170	209	e206	e93	e91	e91	179
29	137	133	54	57	---	170	240	e203	e93	e90	e91	179
30	137	133	55	57	---	170	260	e204	e93	e90	91	178
31	137	---	56	57	---	170	---	e206	---	e90	91	---
TOTAL	4451	4021	2337	1773	1584	3778	5459	7030	4560	2839	2778	3289
MEAN	144	134	75.4	57.2	56.6	122	182	227	152	91.6	89.6	110
MAX	174	136	133	59	57	170	260	262	221	94	91	180
MIN	133	133	51	57	56	56	169	203	93	90	87	90
AC-FT	8830	7980	4640	3520	3140	7490	10830	13940	9040	5630	5510	6520

CAL YR 1996 TOTAL 44420 MEAN 121 MAX 415 MIN 10 AC-FT 88110
WTR YR 1997 TOTAL 43899 MEAN 120 MAX 262 MIN 51 AC-FT 87070

e Estimated.

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'37", long 120°36'37", in NW 1/4 NE 1/4 sec.3, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 100 ft downstream from tunnel outlet near upper end of Bowman Lake, and 6.9 mi east of Graniteville.

PERIOD OF RECORD.--May 1928 to September 1930, February 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "Milton-Bowman tunnel at outlet."

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 5,592.51 ft above sea level. Prior to Sept. 22, 1964, at datum 0.56 ft higher.

REMARKS.--Tunnel diverts from Middle Yuba River at Milton Reservoir, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Nearly the entire flow of Middle Yuba River is diverted during low and medium flows. Middle Yuba River is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 492 ft^3/s, Feb. 11, 1941; minimum daily, 0.4 ft^3/s, Oct. 7, 1944.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	130	140	369	25	21	e220	e257	207	90	86	84
2	135	130	134	384	25	20	e195	e257	206	89	85	85
3	134	129	132	248	25	20	e179	e257	209	89	85	85
4	134	129	135	40	25	20	e170	e257	217	89	86	84
5	134	129	258	38	24	20	e165	e258	211	89	85	84
6	134	129	166	36	24	20	e163	e258	208	89	86	84
7	134	129	150	35	24	20	e164	e230	207	88	86	84
8	133	128	150	34	24	20	e165	e214	206	88	86	87
9	133	128	153	33	24	20	e165	e214	200	88	86	94
10	133	128	141	32	23	20	e165	e214	179	88	86	93
11	133	128	158	31	23	108	e165	e213	178	88	86	92
12	133	127	255	31	23	126	e165	e212	177	88	86	92
13	133	127	153	30	22	124	e165	e304	178	88	86	92
14	132	127	112	30	21	126	e165	e326	178	87	86	92
15	132	127	96	30	21	129	e165	e348	177	87	85	94
16	132	127	88	29	21	136	e165	e361	177	87	85	93
17	132	150	83	28	21	139	e165	e362	158	87	85	91
18	133	178	79	28	21	140	e165	e363	92	87	85	90
19	132	151	77	28	21	145	e166	e352	91	87	87	90
20	132	146	76	28	21	166	e167	e332	90	87	87	89
21	131	137	78	27	21	165	e168	e313	90	87	86	88
22	131	151	75	27	21	164	e169	e352	90	87	85	87
23	131	144	73	27	21	162	e183	e346	90	87	85	86
24	134	137	71	27	21	161	e203	e310	90	90	85	116
25	134	135	70	28	21	168	e203	e276	90	87	85	168
26	131	134	84	28	21	201	e204	e257	89	86	85	167
27	130	132	116	27	21	237	e205	e240	89	86	85	166
28	131	132	92	26	21	e274	e205	225	89	87	85	164
29	132	131	120	26	---	e269	e236	217	89	86	85	163
30	131	131	216	25	---	e252	e256	213	89	86	85	162
31	130	---	332	25	---	e243	---	210	---	86	84	---
TOTAL	4109	4041	4063	1835	626	3836	5436	8548	4441	2715	2650	3146
MEAN	133	135	131	59.2	22.4	124	181	276	148	87.6	85.5	105
MAX	135	178	332	384	25	274	256	363	217	90	87	168
MIN	130	127	70	25	21	20	163	210	89	86	84	84
AC-FT	8150	8020	8060	3640	1240	7610	10780	16950	8810	5390	5260	6240

e Estimated.

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1964, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.00	14.6	31.4	35.3	51.6	72.9	176	242	142	28.6	6.77	3.88
MAX	101	65.4	118	124	143	213	294	414	272	90.9	26.8	10.1
(WY)	1963	1951	1956	1942	1963	1940	1936	1937	1933	1938	1952	1952
MIN	.50	.50	.70	1.00	4.28	9.19	19.7	45.6	24.8	4.21	2.06	1.00
(WY)	1931	1931	1931	1931	1931	1933	1938	1936	1934	1939	1964	1931

SUMMARY STATISTICS	WATER YEARS 1928 - 1964	
ANNUAL MEAN	67.9	
HIGHEST ANNUAL MEAN	97.2	1930
LOWEST ANNUAL MEAN	33.5	1949
HIGHEST DAILY MEAN	492	Feb 11 1941
LOWEST DAILY MEAN	.40	Oct 7 1944
ANNUAL SEVEN-DAY MINIMUM	.50	Oct 1 1930
ANNUAL RUNOFF (AC-FT)	49180	
10 PERCENT EXCEEDS	220	
50 PERCENT EXCEEDS	20	
90 PERCENT EXCEEDS	3.0	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	150	129	62.0	38.8	37.7	49.7	47.2	86.3	73.6	64.1	88.3	155
MAX	310	368	357	211	197	265	181	333	224	174	253	300
(WY)	1981	1973	1973	1985	1985	1986	1997	1969	1993	1976	1968	1974
MIN	1.52	1.34	1.25	1.17	1.20	1.68	5.38	7.69	5.23	3.95	2.20	1.72
(WY)	1977	1977	1977	1977	1977	1977	1977	1986	1976	1977	1993	1981

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	35967		45446			
ANNUAL MEAN	98.3		125		81.9	
HIGHEST ANNUAL MEAN					133	1973
LOWEST ANNUAL MEAN					14.5	1977
HIGHEST DAILY MEAN	344	Apr 9	384	Jan 2	438	Nov 4 1972
LOWEST DAILY MEAN	11	Jul 25	20	Mar 2	1.1	Dec 11 1976
ANNUAL SEVEN-DAY MINIMUM	11	Jul 25	20	Mar 2	1.1	Dec 26 1976
ANNUAL RUNOFF (AC-FT)	71340		90140		59310	
10 PERCENT EXCEEDS	175		222		258	
50 PERCENT EXCEEDS	128		124		25	
90 PERCENT EXCEEDS	15		25		5.1	

11408550 MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°31'19", long 120°34'57", in SW 1/4 SW 1/4 sec.12, T.19 N., R.12 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 350 ft downstream from Milton Dam, and 4.1 mi southeast of Sierra City.

DRAINAGE AREA.--39.9 mi^2.

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1965-87 available in files of the U.S. Geological Survey.

REVISED RECORDS.--WDR CA-88-4: Drainage area.

GAGE.--Water-stage recorder, sharp-crested weir, and crest-stage gage. Elevation of gage is 5,690 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage 450 ft downstream at different datum.

REMARKS.--Middle Yuba River is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964 and Milton Reservoir. Tunnel diverts from Middle Yuba River at Milton Dam, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake via Milton-Bowman Tunnel (station 11408000). Practically the entire flow of Middle Yuba River is diverted during low and medium flows. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,610 ft^3/s, Jan. 2, 1997, gage height, 17.1 ft, from flood marks; minimum daily, 0.77 ft^3/s, Nov. 3, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.0	4.0	e3770	e124	e84	73	4.3	4.6	4.1	3.9	3.8
2	3.9	4.2	3.9	e6860	e118	e87	63	4.2	4.6	4.0	3.9	3.8
3	3.9	4.2	3.9	e2290	e109	e85	47	4.2	4.5	4.0	3.9	3.8
4	3.9	4.2	3.9	e1070	e106	e78	40	4.2	4.3	4.0	4.0	3.8
5	3.9	4.3	3.9	e635	e97	e71	27	4.2	4.2	4.0	4.0	3.8
6	4.0	4.2	3.9	e431	e94	e64	8.1	4.2	4.2	3.9	4.0	3.8
7	4.0	4.2	e4.0	e334	e88	e57	5.2	4.2	4.2	3.9	4.0	3.8
8	4.0	4.2	e4.0	e277	e90	e50	5.0	4.4	e4.2	3.9	4.0	3.8
9	4.0	4.1	e4.0	e237	e84	e44	4.8	4.5	e4.2	4.0	3.9	3.9
10	4.0	3.9	e4.0	e202	e79	e36	4.7	4.7	e4.1	4.0	3.9	3.8
11	4.0	3.9	e4.0	e184	e79	e30	4.7	11	e4.1	3.9	3.9	3.8
12	4.0	4.0	e4.0	e166	e77	e23	4.7	12	e4.1	3.9	3.9	3.8
13	4.0	4.0	e4.0	e154	e75	e15	4.7	12	e4.1	3.9	3.9	3.8
14	4.0	4.0	e4.0	e131	e74	4.5	4.7	22	e4.1	3.9	3.9	3.8
15	4.0	4.0	e4.0	e130	e74	4.5	4.7	18	e4.1	3.9	3.9	3.8
16	4.0	4.0	e4.0	e118	e77	4.6	4.6	7.2	e4.0	3.9	3.9	3.8
17	4.0	4.0	e4.0	e108	e88	4.6	4.7	5.1	e4.0	3.9	3.9	3.7
18	4.0	4.0	e4.0	e102	e90	4.6	4.7	5.0	e4.0	3.9	3.8	3.7
19	4.0	4.0	e4.0	e93	e92	4.5	4.7	4.9	4.0	3.9	3.8	3.7
20	4.0	4.0	e4.0	e95	e95	4.5	4.7	4.9	4.0	3.9	3.8	3.7
21	4.0	4.0	e4.0	e108	e93	4.6	4.7	4.9	4.0	3.9	3.8	3.8
22	4.0	4.0	e4.0	e144	e94	4.6	4.7	4.9	4.0	3.9	3.8	3.8
23	4.0	4.0	e4.0	e172	e91	4.6	4.9	4.9	4.0	3.9	3.8	3.9
24	4.0	4.0	e4.0	e129	e91	4.6	4.9	4.8	4.0	3.9	3.8	3.8
25	4.0	4.0	e4.0	e184	e89	4.6	4.8	4.7	4.1	3.9	3.8	3.8
26	4.0	4.0	e4.0	e254	e90	4.6	4.8	4.7	4.1	3.9	3.8	3.8
27	3.9	4.0	e4.0	e222	e90	4.6	4.8	4.7	4.1	3.9	3.8	3.8
28	3.9	4.0	e4.0	e184	e85	4.6	4.8	4.7	4.1	3.9	3.8	3.8
29	3.9	4.0	e4.0	e160	---	4.7	4.8	4.6	4.1	3.9	3.8	3.8
30	3.9	4.0	e4.0	e141	---	5.0	4.9	4.6	4.1	3.9	3.8	3.8
31	3.9	---	e4.0	e126	---	50	---	4.6	---	3.9	3.8	---
TOTAL	123.0	121.4	123.5	19211	2533	852.3	372.8	197.3	124.2	121.7	120.0	113.8
MEAN	3.97	4.05	3.98	620	90.5	27.5	12.4	6.36	4.14	3.93	3.87	3.79
MAX	4.0	4.3	4.0	6860	124	87	73	22	4.6	4.1	4.0	3.9
MIN	3.9	3.9	3.9	93	74	4.5	4.6	4.2	4.0	3.9	3.8	3.7
AC-FT	244	241	245	38110	5020	1690	739	391	246	241	238	226

e Estimated.

11408550 MIDDLE YUBA RIVER BELOW MILTON DAM, NEAR SIERRA CITY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.17	3.79	3.59	65.2	31.2	11.9	43.9	139	114	20.4	3.99	3.96
MAX	7.02	4.94	3.98	620	195	61.3	213	723	631	119	5.36	4.68
(WY)	1994	1994	1997	1997	1993	1995	1996	1995	1995	1995	1993	1993
MIN	3.55	3.21	3.26	3.24	3.19	3.45	3.09	3.58	3.38	3.37	3.39	3.42
(WY)	1989	1996	1989	1996	1989	1990	1994	1990	1990	1988	1995	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1988 - 1997	
ANNUAL TOTAL	29843.0		24014.0			
ANNUAL MEAN	81.5		65.8		37.1	
HIGHEST ANNUAL MEAN					146	1995
LOWEST ANNUAL MEAN					3.53	1990
HIGHEST DAILY MEAN	2020	May 18	6860	Jan 2	6860	Jan 2 1997
LOWEST DAILY MEAN	3.1	Jun 19	3.7	Sep 17	.77	Nov 3 1990
ANNUAL SEVEN-DAY MINIMUM	3.1	Jun 19	3.7	Sep 14	1.8	Apr 9 1994
INSTANTANEOUS PEAK FLOW			8610	Jan 2	8610	Jan 2 1997
INSTANTANEOUS PEAK STAGE			17.10	Jan 2	17.10	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	59190		47630		26900	
10 PERCENT EXCEEDS	380		94		30	
50 PERCENT EXCEEDS	4.0		4.0		3.8	
90 PERCENT EXCEEDS	3.2		3.8		3.3	

11408870 LOHMAN RIDGE TUNNEL AT INTAKE, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°24'25", long 120°59'43", in SW 1/4 NE 1/4 sec.20, T.18 N., R.8 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, at tunnel intake at Our House Dam and 4.0 mi southeast of Camptonville.

PERIOD OF RECORD.--October 1988 to current year. Records of monthly diversion published with Middle Yuba River below Our House Dam, near Camptonville (station 11408880), for water years 1969-88.

GAGE.--Water-stage recorder. Datum of gage is 2,014.77 ft above sea level.

REMARKS.--Records good except for period of estimated daily discharge, which are fair. Tunnel diverts water from Middle Yuba River to New Bullards Bar Reservoir (station 11413515) for power development. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 839 ft^3/s, Mar. 25, 1989; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	17	216	11	.29	166	165	191	64	2.5	.40	.22
2	9.2	15	191	.71	.28	200	140	168	60	9.6	.37	.22
3	8.7	14	133	.59	.28	177	139	149	61	20	.37	.23
4	8.0	13	134	.55	.29	115	139	152	99	25	.39	.23
5	7.8	14	762	.55	.28	145	111	155	104	20	.38	.22
6	7.0	13	708	.52	.28	149	127	156	85	17	.35	.22
7	6.6	12	512	.50	.28	147	121	152	69	17	.33	.21
8	6.2	12	417	.32	.29	147	116	150	61	15	.30	.19
9	6.2	12	533	.14	.27	145	114	155	57	14	.30	.19
10	6.4	12	805	.18	.28	150	110	152	60	14	.30	.19
11	5.9	11	786	.10	.28	165	111	150	53	14	.29	.20
12	6.2	11	523	.04	.28	120	114	149	49	14	.45	.22
13	6.4	10	582	.13	.30	100	104	151	53	14	.57	.22
14	6.6	10	664	.29	.29	96	108	149	48	13	.57	.17
15	6.6	12	639	.28	.29	106	122	152	44	11	.55	.17
16	5.9	13	568	.27	.29	159	134	142	46	9.0	.52	.18
17	6.1	161	496	.27	.29	207	134	147	50	8.5	.39	.15
18	11	555	421	.27	102	195	151	137	43	7.5	.35	.12
19	14	301	360	.28	212	198	379	137	39	7.4	.38	.11
20	11	411	324	.27	e280	216	378	126	38	7.1	.52	.08
21	9.3	176	460	.25	e256	234	398	114	36	6.9	.51	.05
22	9.2	358	445	.27	e243	253	397	105	36	6.6	.47	.04
23	8.7	385	431	.28	e230	276	451	100	32	6.7	.49	.03
24	15	201	356	.27	e201	285	301	105	33	7.0	.47	.02
25	50	157	312	.30	164	294	257	106	35	6.8	.47	.02
26	25	119	517	.34	185	299	222	101	32	5.3	.43	.01
27	15	99	741	.30	193	323	226	92	32	5.0	.41	.00
28	13	90	752	.28	128	372	231	85	32	4.8	.37	.00
29	22	80	730	.28	---	343	219	80	30	4.9	.35	.00
30	36	70	515	.28	---	310	201	77	18	4.6	.30	.00
31	22	---	41	.28	---	282	---	72	---	2.1	.25	---
TOTAL	380.2	3364	15074	20.39	2198.84	6374	5920	4057	1499	320.3	12.60	3.91
MEAN	12.3	112	486	.66	78.5	206	197	131	50.0	10.3	.41	.13
MAX	50	555	805	11	280	372	451	191	104	25	.57	.23
MIN	5.9	10	41	.04	.27	96	104	72	18	2.1	.25	.00
AC-FT	754	6670	29900	40	4360	12640	11740	8050	2970	635	25	7.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

MEAN	11.7	34.0	125	181	253	366	427	270	180	57.1	9.08	4.44
MAX	51.4	112	486	509	502	644	688	701	503	269	35.8	14.8
(WY)	1990	1997	1997	1995	1996	1993	1995	1996	1993	1995	1995	1995
MIN	.000	1.42	1.36	.66	16.6	206	182	38.0	10.6	.86	.000	.000
(WY)	1989	1991	1991	1997	1991	1997	1994	1995	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	114558.2		39224.24			
ANNUAL MEAN	313		107		159	
HIGHEST ANNUAL MEAN					280	1993
LOWEST ANNUAL MEAN					73.1	1994
HIGHEST DAILY MEAN	814	May 16	805	Dec 10	839	Mar 25 1989
LOWEST DAILY MEAN	5.9	Oct 11	.00	Sep 27	.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	6.2	Oct 11	.01	Sep 24	.00	Oct 1 1988
ANNUAL RUNOFF (AC-FT)	227200		77800		115300	
10 PERCENT EXCEEDS	742		323		526	
50 PERCENT EXCEEDS	180		22		41	
90 PERCENT EXCEEDS	11		.25		.00	

e Estimated.

11408880 MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°24'42", long 120°59'49", in SW 1/4 NW 1/4 sec.20, T.18 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 300 ft downstream from Our House Dam, and 4.0 mi southeast of Camptonville.

DRAINAGE AREA.--145 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder, sharp-crested weir since Oct. 16, 1990, and crest-stage gage. Datum of gage is 1,957.51 ft above sea level. Prior to Nov. 4, 1970, water-stage recorder at datum 10 ft higher. Prior to Oct. 1, 1987, at site 75 ft downstream.

REMARKS.--Records good except for periods of spill which are considered fair. Natural flow of stream affected by Jackson Meadows Reservoir (station 11407800), Milton Bowman Tunnel (station 11408000), which diverts upstream from station to Bowman Lake (station 11415500), and Lohman Ridge Tunnel (station 11408870), which diverts 300 ft upstream to Oregon Creek and then to New Bullards Bar Reservoir (station 11413515) via Camptonville Tunnel (station 11409350). Other small diversions upstream from station. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,500 ft^3/s, Jan. 2, 1997, gage height, 30.7 ft, from floodmark, present datum, from rating curve extended above 8,600 ft^3/s on basis of theoretical rating of Our House Dam spillway; minimum daily, 2.1 ft^3/s, Jan. 10, 1982.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	33	36	19800	1260	61	38	62	60	66	41	34
2	33	33	35	21000	1130	63	38	71	59	57	40	33
3	33	33	34	8200	995	61	38	79	58	42	38	35
4	33	33	34	4460	935	61	38	84	87	36	39	34
5	33	33	1600	3100	861	61	48	89	70	37	39	33
6	34	33	337	2200	780	61	49	87	62	40	39	33
7	33	33	45	1900	739	61	48	86	60	39	38	32
8	33	33	43	1500	753	61	48	85	58	39	37	32
9	33	33	79	1250	692	61	48	96	56	40	37	32
10	33	33	1160	1070	720	61	46	105	57	39	37	31
11	33	33	1480	908	671	62	51	105	56	39	37	30
12	33	33	3550	764	646	62	55	100	54	38	33	31
13	34	33	1980	599	629	61	54	91	55	37	35	32
14	34	33	765	616	651	62	68	79	55	36	36	39
15	34	33	341	514	653	62	80	71	55	37	36	42
16	33	33	78	629	631	68	76	67	49	39	36	43
17	33	36	43	637	572	89	91	66	44	40	35	39
18	34	259	39	592	407	71	94	64	43	40	34	35
19	34	39	38	544	228	51	204	63	41	40	33	34
20	34	41	37	489	130	40	122	60	40	39	42	32
21	34	37	39	517	60	40	137	59	39	38	47	32
22	34	40	40	1380	60	40	77	60	38	37	40	32
23	34	40	40	1930	60	41	152	65	38	37	37	31
24	34	39	39	1290	60	45	90	96	38	38	37	30
25	34	36	38	2970	60	39	96	63	38	40	36	30
26	34	34	489	4000	60	39	104	60	37	39	36	31
27	34	34	2060	2780	61	47	105	59	37	37	36	30
28	34	33	1250	2090	61	41	96	59	36	37	36	29
29	34	33	1680	1680	---	38	74	60	35	37	35	28
30	34	33	4850	1450	---	38	63	60	42	37	35	29
31	34	---	9330	1300	---	39	---	60	---	38	34	---
TOTAL	1041	1262	31609	92159	14565	1687	2328	2311	1497	1235	1151	988
MEAN	33.6	42.1	1020	2973	520	54.4	77.6	74.5	49.9	39.8	37.1	32.9
MAX	34	259	9330	21000	1260	89	204	105	87	66	47	43
MIN	33	33	34	489	60	38	38	59	35	36	33	28
AC-FT	2060	2500	62700	182800	28890	3350	4620	4580	2970	2450	2280	1960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

MEAN	30.6	79.0	174	387	235	250	167	230	116	33.2	29.7	29.5
MAX	52.7	462	1040	2973	1521	1228	1368	1697	994	49.6	42.1	39.6
(WY)	1983	1982	1982	1997	1986	1995	1982	1995	1995	1983	1984	1986
MIN	16.6	20.4	20.7	7.10	28.0	31.3	33.9	32.5	28.8	17.5	13.0	14.3
(WY)	1978	1978	1987	1987	1977	1976	1970	1970	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1969 - 1997	
ANNUAL TOTAL	104484		151833			
ANNUAL MEAN	285		416		147	
HIGHEST ANNUAL MEAN					481	1969
LOWEST ANNUAL MEAN					26.3	1977
HIGHEST DAILY MEAN	9330	Dec 31	21000	Jan 2	21000	Jan 2 1997
LOWEST DAILY MEAN	32	Jan 6	28	Sep 29	2.1	Jan 10 1982
ANNUAL SEVEN-DAY MINIMUM	32	Jan 6	30	Sep 24	3.2	Oct 21 1970
INSTANTANEOUS PEAK FLOW			27500	Jan 2	27500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			30.70	Jan 2	30.70	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	207200		301200		106200	
10 PERCENT EXCEEDS	698		812		169	
50 PERCENT EXCEEDS	36		42		34	
90 PERCENT EXCEEDS	33		33		26	

11409300 OREGON CREEK AT CAMPTONVILLE, CA

LOCATION.--Lat 39°26'46", long 121°02'43", in SE 1/4 NE 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 25 ft downstream from county bridge, 0.5 mi southeast of Camptonville, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--23.0 mi^2.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,230 ft above sea level, from topographic map.

REMARKS.--Records good. No regulation or diversion upstream from station. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,170 ft^3/s, Jan. 1, 1997, gage height, 11.31 ft, from rating curve extended above 4,000 ft^3/s, maximum gage height, 11.56 ft, Feb. 17, 1986; minimum daily, 0.53 ft^3/s, Aug. 14-16, 1977, Sept. 6, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 6	0715	1,110	7.54	Jan. I	1730	5,170	11.31
Dec. 13	0215	1,490	8.08	Jan. 25	1415	1,940	8.62

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	4.6	55	3730	237	43	32	22	8.3	5.5	2.3	2.3
2	2.7	4.1	44	3070	206	59	31	21	8.2	5.0	2.2	2.0
3	2.7	3.8	29	1190	179	52	29	20	8.5	4.7	2.2	2.1
4	2.7	3.8	28	667	159	47	28	20	17	4.5	2.2	2.2
5	2.6	3.8	33	453	141	45	26	19	16	4.4	2.2	2.0
6	2.8	3.8	494	331	128	43	25	18	12	4.3	2.2	1.9
7	2.6	3.8	228	254	119	42	25	18	9.8	4.3	2.3	1.9
8	2.6	3.7	146	199	112	40	24	18	8.9	4.1	2.0	1.8
9	2.5	3.6	114	162	104	38	23	16	8.5	3.8	2.0	1.8
10	2.5	3.5	128	139	96	37	23	15	8.2	3.7	2.2	1.7
11	2.5	3.5	587	123	89	36	22	15	7.9	3.7	2.0	1.7
12	2.5	3.5	702	112	84	35	22	14	7.6	3.6	2.1	1.7
13	2.6	3.5	942	101	79	33	21	13	7.9	3.5	2.1	1.8
14	2.7	3.3	470	92	73	33	21	13	7.5	3.5	2.1	1.8
15	2.7	3.3	329	90	70	32	21	12	7.6	3.4	2.0	2.8
16	2.6	3.7	204	83	67	42	20	12	7.1	3.2	2.0	2.8
17	2.7	41	156	76	71	64	20	12	6.7	3.3	2.1	2.3
18	3.3	119	120	70	67	56	21	11	6.4	3.1	1.9	2.1
19	3.9	58	96	66	65	53	39	10	6.2	3.0	1.9	2.1
20	3.5	59	92	81	63	52	28	10	6.1	2.9	3.1	2.0
21	3.2	27	82	96	60	50	26	9.7	5.9	2.8	3.4	1.9
22	3.2	51	116	471	57	49	25	9.5	5.5	2.7	2.7	1.9
23	3.2	62	121	555	54	48	35	12	5.4	2.6	2.5	1.8
24	3.9	32	105	333	52	46	29	16	5.3	2.8	2.6	1.9
25	6.1	24	81	1030	49	44	26	12	5.2	2.9	2.7	1.9
26	4.8	20	293	1310	48	42	25	11	5.0	2.9	2.7	1.8
27	3.9	17	928	779	47	41	24	10	4.9	2.9	2.6	1.8
28	3.6	16	798	539	45	39	24	9.5	4.7	2.7	2.6	1.8
29	4.6	14	774	404	---	37	23	9.3	4.7	2.6	2.5	1.7
30	8.8	12	1450	325	---	36	22	9.0	4.9	2.4	2.5	1.7
31	5.8	---	2270	269	---	37	---	8.5	---	2.4	2.5	---
TOTAL	106.5	611.3	12015	17200	2621	1351	760	425.5	227.9	107.2	72.4	59.0
MEAN	3.44	20.4	388	555	93.6	43.6	25.3	13.7	7.60	3.46	2.34	1.97
MAX	8.8	119	2270	3730	237	64	39	22	17	5.5	3.4	2.8
MIN	2.5	3.3	28	66	45	32	20	8.5	4.7	2.4	1.9	1.7
AC-FT	211	1210	23830	34120	5200	2680	1510	844	452	213	144	117

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

MEAN	5.32	34.0	87.4	161	153	170	111	61.0	17.6	5.66	2.78	2.77
MAX	16.9	214	407	555	664	453	391	198	47.8	13.0	5.83	9.12
(WY)	1982	1974	1984	1997	1986	1989	1982	1995	1983	1995	1983	1983
MIN	.84	3.03	2.30	3.88	6.28	10.8	7.64	9.45	3.61	1.11	.68	.67
(WY)	1989	1991	1977	1991	1991	1977	1977	1987	1987	1977	1977	1988

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	45855.6		35556.8			
ANNUAL MEAN	125		97.4		67.3	
HIGHEST ANNUAL MEAN					146	1982
LOWEST ANNUAL MEAN					5.38	1977
HIGHEST DAILY MEAN	2270	Dec 31	3730	Jan 1	3730	Jan 1 1997
LOWEST DAILY MEAN	2.5	Oct 9	1.7	Sep 10	.53	Aug 14 1977
ANNUAL SEVEN-DAY MINIMUM	2.5	Oct 7	1.8	Sep 8	.54	Aug 11 1977
INSTANTANEOUS PEAK FLOW			5170	Jan 1	5170	Jan 1 1997
INSTANTANEOUS PEAK STAGE			11.31	Jan 1	11.56	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	90950		70530		48750	
10 PERCENT EXCEEDS	312		160		170	
50 PERCENT EXCEEDS	43		12		14	
90 PERCENT EXCEEDS	3.0		2.2		2.1	

11409350 CAMPTONVILLE TUNNEL AT INTAKE, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°26'25", long 121°03'30", in NW 1/4 SW 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, at tunnel intake at Log Cabin Dam 1.0 mi southwest of town of Camptonville.

PERIOD OF RECORD.--October 1988 to current year. Records of monthly diversion published with Oregon Creek below Log Cabin Dam near Camptonville (station 11409400) for water years 1969-88.

GAGE.--Water-stage recorder. Datum of gage is 1,952.00 ft above sea level (from contractor's drawings).

REMARKS.--Records fair. Water is diverted to Oregon Creek from the Middle Yuba River through Lohman Ridge Tunnel (station 11408870) 1,000 ft upstream. Camptonville Tunnel diverts water from Oregon Creek to New Bullards Bar Reservoir (station 11413515) for power development. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,090 ft^3/s, Mar. 25, 1989; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	13	259	106	278	297	356	270	60	3.7	.05	.21
2	3.7	10	242	148	237	354	301	240	56	5.3	.00	.21
3	3.4	8.9	150	22	204	329	275	211	55	19	.00	1.1
4	2.6	8.3	146	13	181	297	259	207	99	24	.00	.82
5	2.5	8.5	871	14	156	287	226	205	104	19	.00	.00
6	2.0	7.4	845	14	137	277	216	205	83	16	.00	.00
7	1.6	6.6	666	15	125	270	202	205	63	15	.00	.00
8	1.1	6.6	539	15	116	266	196	206	57	14	.90	.00
9	.97	6.6	628	16	106	262	194	203	51	13	1.5	.00
10	1.1	6.6	974	16	98	266	188	200	56	13	1.6	.38
11	.92	5.8	976	16	91	280	176	199	48	13	.88	.85
12	1.0	5.7	825	17	85	236	165	193	44	12	.06	1.2
13	1.2	5.1	943	18	78	211	163	192	47	12	.00	.72
14	1.4	5.3	920	17	74	205	150	188	43	11	.00	.86
15	1.4	6.1	814	18	70	214	157	182	39	9.4	.00	.87
16	.95	7.7	732	20	67	274	178	177	40	7.4	.00	.84
17	1.1	170	642	21	73	364	183	169	42	6.9	.00	.98
18	5.4	677	540	21	190	340	223	158	39	6.2	.00	.00
19	9.3	352	468	22	374	339	470	154	38	6.0	.00	.00
20	6.3	498	421	53	396	355	472	132	36	5.6	.07	.00
21	4.3	200	617	82	410	373	482	111	34	5.3	.07	.00
22	3.9	398	590	306	392	392	502	97	32	4.9	.00	.56
23	3.7	472	559	421	366	413	546	102	31	4.8	.00	1.1
24	8.4	243	473	368	347	422	479	132	30	5.4	.00	1.0
25	40	165	414	498	339	434	377	119	29	5.5	.00	.52
26	20	122	629	249	328	436	328	96	27	4.0	.00	.00
27	9.9	97	894	486	336	459	329	85	25	3.3	.00	.00
28	7.0	87	897	557	322	501	334	78	24	2.9	.00	.00
29	15	78	806	447	---	469	321	74	24	3.1	.00	.00
30	33	67	743	377	---	434	293	70	18	2.7	.00	.00
31	19	---	247	318	---	424	---	65	---	1.9	.00	---
TOTAL	215.74	3744.2	19470	4711	5976	10480	8741	4925	1374	275.3	5.13	12.22
MEAN	6.96	125	628	152	213	338	291	159	45.8	8.88	.17	.41
MAX	40	677	976	557	410	501	546	270	104	24	1.6	1.2
MIN	.92	5.1	146	13	67	205	150	65	18	1.9	.00	.00
AC-FT	428	7430	38620	9340	11850	20790	17340	9770	2730	546	10	24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

MEAN	11.5	39.0	147	255	339	524	514	319	213	62.7	6.66	2.34
MAX	54.9	125	628	695	668	793	867	820	542	347	33.8	8.04
(WY)	1990	1997	1997	1995	1993	1993	1995	1996	1993	1995	1995	1996
MIN	.000	1.28	.83	1.16	16.7	308	173	53.2	7.22	.11	.000	.000
(WY)	1989	1991	1991	1991	1991	1994	1994	1992	1992	1994	1992	1991

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	138431.84		59929.59			
ANNUAL MEAN	378		164		202	
HIGHEST ANNUAL MEAN					335	1993
LOWEST ANNUAL MEAN					75.7	1994
HIGHEST DAILY MEAN	1060	May 17	976	Dec 11	1090	Mar 25 1989
LOWEST DAILY MEAN	.92	Oct 11	.00	Aug 2	.00	Oct 1 1988
ANNUAL SEVEN-DAY MINIMUM	1.1	Oct 8	.00	Aug 13	.00	Oct 1 1988
ANNUAL RUNOFF (AC-FT)	274600		118900		146300	
10 PERCENT EXCEEDS	860		469		690	
50 PERCENT EXCEEDS	212		60		50	
90 PERCENT EXCEEDS	5.4		.00		.00	

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°26'22", long 121°03'29", in SW 1/4 SW 1/4 sec.11, T.18 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 500 ft downstream from Log Cabin Dam, 670 ft upstream from High Point Ravine, and 1.1 mi southwest of Camptonville.

DRAINAGE AREA.--29.1 mi^2.

PERIOD OF RECORD.--August 1968 to current year.
WATER TEMPERATURE: Water years 1972-79.

REVISED RECORDS.--WDR CA-81-4: 1980(M).

GAGE.--Water-stage recorder, sharp-crested weir since Nov. 13, 1990, and crest-stage gage. Datum of gage is 1,912.73 ft above sea level (levels by Yuba County Water Agency). Prior to July 24, 1973, at site 470 ft downstream at datum 8.40 ft lower. July 24, 1973, to Sept. 30, 1986, at site on right bank. Oct. 1, 1986, to Nov. 13, 1990, a sharp-crested weir was put in at same location and gage house located on left bank. The weir was deemed too shallow so a new sharp-crested weir was put in 70 ft downstream at a datum 7.24 ft lower.

REMARKS.--Records good. Lohman Ridge Tunnel (station 11408870) diverts water into the basin from the Middle Yuba River. Camptonville Tunnel (station 11409350), maximum capacity, about 1,000 ft^3/s, 520 ft upstream, diverts water out of the basin to New Bullards Bar Reservoir (station 11413515); diversion began October 1968. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft^3/s, Feb. 17, 1986, gage height, 11.24 ft, datum then in use, from rating curve extended above 50 ft^3/s based on flow-over-dam computation, maximum gage height 15.70 ft (from floodmark), Jan. 1, 1997; minimum daily, 0.34 ft^3/s, Sept. 18, 1972.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	15	4160	16	15	9.6	13	12	7.6	4.3	3.8
2	10	10	15	3840	15	15	9.5	13	12	8.4	4.1	3.6
3	10	10	13	1410	15	15	9.5	13	12	9.8	4.0	3.2
4	10	10	13	660	15	14	9.5	13	14	9.6	4.0	3.5
5	10	10	485	380	14	15	9.3	13	14	8.2	4.0	3.5
6	10	10	30	200	14	14	9.4	13	13	7.6	3.9	3.3
7	10	10	20	170	14	14	9.4	13	13	7.9	3.8	3.1
8	9.9	10	19	280	14	14	10	13	12	7.9	3.1	3.2
9	10	10	19	240	14	14	11	13	12	7.8	2.8	3.4
10	9.9	10	330	210	13	14	11	13	13	7.7	2.7	3.4
11	9.8	10	516	180	12	15	10	13	12	7.6	3.6	3.1
12	9.8	10	710	170	12	14	10	13	12	7.6	3.9	3.0
13	9.8	10	172	150	12	14	11	13	12	7.6	4.2	3.0
14	9.9	10	52	130	12	14	11	13	12	7.7	4.1	3.1
15	9.8	10	22	125	12	14	14	13	12	7.5	4.0	4.4
16	9.8	10	19	101	11	15	14	13	11	7.1	3.8	4.5
17	9.9	14	16	90	12	16	14	13	10	7.2	3.6	4.0
18	10	21	16	83	13	16	14	13	9.5	7.1	3.6	3.9
19	10	16	15	76	14	14	16	13	9.3	7.0	3.6	3.7
20	10	16	14	56	14	14	17	12	9.1	6.9	6.2	3.7
21	10	13	16	22	15	13	16	13	9.1	6.9	6.9	3.5
22	10	16	16	277	15	13	17	13	9.0	6.9	5.3	3.2
23	10	18	16	252	15	13	17	13	9.0	6.8	4.6	3.0
24	10	16	15	23	15	12	16	14	8.9	6.9	4.6	3.0
25	12	14	14	649	15	12	15	14	8.9	6.9	4.5	3.1
26	12	12	268	1240	15	12	14	13	8.8	6.6	4.3	3.2
27	11	12	710	359	15	11	14	13	8.8	6.5	4.1	3.0
28	11	12	210	23	15	10	14	13	8.7	6.5	4.1	3.1
29	11	12	290	21	---	10	14	13	8.8	6.5	3.9	3.1
30	11	12	1000	17	---	10	13	12	8.2	6.4	3.9	2.9
31	11	---	2150	16	---	9.9	---	12	---	5.9	3.7	---
TOTAL	317.6	364	7216	15610	388	415.9	379.2	402	324.1	228.6	127.2	101.5
MEAN	10.2	12.1	233	504	13.9	13.4	12.6	13.0	10.8	7.37	4.10	3.38
MAX	12	21	2150	4160	16	16	17	14	14	9.8	6.9	4.5
MIN	9.8	10	13	16	11	9.9	9.3	12	8.2	5.9	2.7	2.9
AC-FT	630	722	14310	30960	770	825	752	797	643	453	252	201

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.50	16.5	52.3	102	63.5	48.1	30.4	19.8	11.5	8.37	6.51	5.78
MAX	12.8	72.5	273	604	617	189	268	111	22.0	15.2	13.1	14.3
(WY)	1972	1982	1982	1969	1986	1969	1969	1969	1969	1983	1983	1984
MIN	1.95	2.27	1.97	4.57	3.39	7.14	8.11	8.00	4.89	1.82	1.32	1.37
(WY)	1989	1977	1977	1977	1977	1977	1986	1986	1987	1977	1977	1988

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	20379.6		25874.1			
ANNUAL MEAN	55.7		70.9		30.9	
HIGHEST ANNUAL MEAN					128	1969
LOWEST ANNUAL MEAN					4.20	1977
HIGHEST DAILY MEAN	2150	Dec 31	4160	Jan 1	5340	Feb 17 1986
LOWEST DAILY MEAN	9.8	Oct 11	2.7	Aug 10	.34	Sep 18 1972
ANNUAL SEVEN-DAY MINIMUM	9.8	Oct 10	3.1	Sep 24	.74	Sep 18 1972
INSTANTANEOUS PEAK FLOW			5980	Jan 1	6400	Feb 17 1986
INSTANTANEOUS PEAK STAGE			15.70	Jan 1	15.70	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	40420		51320		22360	
10 PERCENT EXCEEDS	106		54		18	
50 PERCENT EXCEEDS	14		12		10	
90 PERCENT EXCEEDS	10		3.9		3.3	

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA

LOCATION.--Lat 39°31'30", long 120°56'13", in NE 1/4 SW 1/4 sec.11, T.19 N., R.9 E., Sierra County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 200 ft downstream from St. Catherine Creek, 3.1 mi southwest of Goodyears Bar, and 6.4 mi southwest of Downieville.

DRAINAGE AREA.--250 mi^2.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1949, published as North Fork Yuba River below Goodyears Bar. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1041: 1944. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,453 ft above sea level (river-profile survey).

REMARKS.--Records good except for periods of estimated daily discharge, which are fair. Several small diversions upstream from station for irrigation and mining. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,500 ft^3/s, Jan. 2, 1997, gage height, 25.65 ft, from rating curve extended above 11,900 ft^3/s on basis of one float measurement at 17,900 ft^3/s and slope-area measurements at gage heights 19.15 and 23.8 ft; minimum daily, 60 ft^3/s, Sept. 7-14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 5	0830	6,950	10.76	Jan. 26	0430	7,490	11.09
Dec. 12	0315	11,000	12.95	Apr. 23	0715	3,580	8.21
Jan. 2	1800	45,500	25.65				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173	178	521	e25600	1950	744	1110	1420	728	339	198	163
2	173	176	410	e29600	1850	805	1020	1350	693	312	196	163
3	171	173	340	e14500	1690	749	964	1330	665	298	194	168
4	170	171	365	e7510	1570	715	939	1430	1090	287	192	166
5	168	170	4280	e5240	1460	706	912	1470	852	279	189	162
6	166	166	1950	e3790	1360	695	880	1480	710	272	187	161
7	164	165	1210	e2970	1290	688	854	1500	644	269	184	159
8	161	164	1030	e2510	1230	690	847	1540	609	264	181	158
9	161	162	1640	e2180	1170	693	844	1640	608	259	180	157
10	160	161	4390	e2030	1120	717	806	1720	590	256	179	156
11	160	160	5250	1830	e1080	763	797	1740	567	251	179	156
12	161	159	8090	1750	e1040	760	807	1690	526	251	179	156
13	162	157	4790	1570	e995	735	817	1650	587	246	178	156
14	161	158	2810	1460	979	738	871	1570	553	241	178	157
15	160	159	1940	1390	970	785	968	1520	515	236	176	192
16	160	159	1530	1290	968	957	1070	1440	480	233	173	176
17	160	650	1290	1210	1020	1040	1190	1380	452	233	171	167
18	169	1940	1110	1180	1000	994	1370	1330	428	230	172	162
19	186	1180	981	1150	960	996	2690	1250	409	228	172	164
20	174	1140	912	1150	930	1050	2270	1180	396	224	198	162
21	169	574	1060	1190	e893	1150	3250	1070	381	220	198	158
22	167	839	1040	1620	e879	1260	2580	986	367	216	183	155
23	167	732	1020	2150	848	1350	2900	1070	358	212	177	154
24	180	503	954	1870	813	1400	2130	1100	348	215	178	153
25	246	415	888	4330	794	1410	1810	943	339	219	175	153
26	195	359	1770	6020	791	1490	1770	862	330	213	173	154
27	178	320	4190	3780	801	1620	1900	809	320	213	171	152
28	175	306	3290	2860	768	1550	1830	796	310	217	170	150
29	207	286	4370	2490	---	1370	1620	789	306	220	168	150
30	214	264	10200	2140	---	1310	1480	780	319	208	167	150
31	186	---	18000	1960	---	1240	---	759	---	202	165	---
TOTAL	5404	12146	91621	140320	31219	31170	43296	39594	15480	7563	5581	4790
MEAN	174	405	2956	4526	1115	1005	1443	1277	516	244	180	160
MAX	246	1940	18000	29600	1950	1620	3250	1740	1090	339	198	192
MIN	160	157	340	1150	768	688	797	759	306	202	165	150
AC-FT	10720	24090	181700	278300	61920	61830	85880	78530	30700	15000	11070	9500

e Estimated.

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	187	357	661	879	949	1067	1381	1790	1101	364	185	150
MAX	1407	2380	3830	4526	4367	3074	2822	3894	3627	1384	417	256
(WY)	1963	1951	1965	1997	1986	1995	1982	1952	1983	1983	1983	1983
MIN	71.8	107	97.3	117	138	151	241	335	170	82.7	66.8	71.0
(WY)	1978	1978	1977	1991	1977	1977	1977	1977	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1931 - 1997	
ANNUAL TOTAL	484034		428184			
ANNUAL MEAN	1322		1173		755	
HIGHEST ANNUAL MEAN					1566	1982
LOWEST ANNUAL MEAN					141	1977
HIGHEST DAILY MEAN	18000	Dec 31	29600	Jan 2	29600	Jan 2 1997
LOWEST DAILY MEAN	157	Nov 13	150	Sep 28	60	Sep 7 1977
ANNUAL SEVEN-DAY MINIMUM	159	Nov 10	152	Sep 24	60	Sep 7 1977
INSTANTANEOUS PEAK FLOW			45500	Jan 2	45500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			25.65	Jan 2	25.65	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	960100		849300		546600	
10 PERCENT EXCEEDS	2510		1950		1860	
50 PERCENT EXCEEDS	859		706		328	
90 PERCENT EXCEEDS	175		162		126	

11413250 SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'57", long 121°03'03", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., Plumas County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 30 ft upstream from diversion dam on Slate Creek, 0.3 mi upstream from Feney Ravine, and 4.5 mi northeast of town of Strawberry Valley.

PERIOD OF RECORD.--February 1962 to current year. Monthly discharge only published as adjustment to Slate Creek below diversion dam near Strawberry Valley (station 11413300) February 1962 to September 1966; records of daily discharge are in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Tunnel diverts water from Slate Creek to Sly Creek Reservoir (station 11395400) for power development. See schematic diagrams of South Fork Feather and Yuba River basins.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 863 ft^3/s, Apr. 6, 1963; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	86	.00	414	103	163	161	32	11	.00	.00
2	.00	.00	60	.00	404	115	145	141	29	8.8	.00	.00
3	.00	.00	47	.00	389	103	133	130	30	8.0	.00	.00
4	.00	.00	74	.00	345	96	126	128	67	7.1	.00	.00
5	.00	.00	513	.00	299	96	117	122	52	6.5	.00	.00
6	.00	.00	462	.00	263	95	109	117	39	5.8	.00	.00
7	.00	.00	336	.00	239	96	104	114	35	2.1	.00	.00
8	.00	.00	295	.00	218	97	103	114	32	.00	.00	.00
9	.00	.00	224	.00	199	99	103	115	43	.00	.00	.00
10	.00	.00	e432	.00	184	106	96	113	41	.00	.00	.00
11	.00	.00	e812	.00	171	118	92	111	34	.00	.00	.00
12	.00	.00	e720	.00	161	116	90	106	29	.00	.00	.00
13	.00	.00	e306	.00	149	110	89	98	38	.00	.00	.00
14	.00	.00	.00	.00	144	110	94	90	30	.00	.00	.00
15	.00	.00	.00	.00	147	121	101	85	27	.00	.00	.00
16	.00	.00	.00	5.5	151	175	111	80	24	.00	.00	.00
17	.00	.00	.00	58	182	263	119	74	21	.00	.00	.00
18	.00	.00	.00	107	171	246	147	70	19	.00	.00	.00
19	.00	28	.00	98	160	227	499	65	17	.00	.00	.00
20	.00	92	.00	115	151	226	315	60	16	.00	.00	.00
21	.00	122	.00	129	139	251	517	54	15	.00	.00	.00
22	.00	295	.00	216	131	270	357	48	14	.00	.00	.00
23	.00	179	.00	178	122	276	454	60	13	.00	.00	.00
24	.00	100	71	4.4	113	272	301	73	12	.00	.00	.00
25	.00	71	134	7.4	112	266	243	54	11	.00	.00	.00
26	.00	54	287	7.4	116	273	222	46	10	.00	.00	.00
27	.00	42	496	229	119	274	216	42	9.7	.00	.00	.00
28	.00	36	444	202	110	247	201	39	8.9	.00	.00	.00
29	.00	31	357	17	---	214	189	38	8.8	.00	.00	.00
30	.00	27	227	.00	---	200	167	36	9.4	.00	.00	.00
31	.00	---	10	226	---	191	---	34	---	.00	.00	---
TOTAL	0.00	1077.00	6393.00	1599.70	5503	5452	5723	2618	766.8	49.30	0.00	0.00
MEAN	.000	35.9	206	51.6	197	176	191	84.5	25.6	1.59	.000	.000
MAX	.00	295	812	229	414	276	517	161	67	11	.00	.00
MIN	.00	.00	.00	.00	110	95	89	34	8.8	.00	.00	.00
AC-FT	.00	2140	12680	3170	10920	10810	11350	5190	1520	98	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

MEAN	8.74	63.5	90.6	118	144	213	228	198	103	22.1	3.08	1.61
MAX	43.5	321	302	408	595	588	690	638	360	144	24.2	21.1
(WY)	1983	1984	1967	1995	1996	1993	1993	1973	1995	1983	1983	1986
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.028	.000	.000	.000
(WY)	1963	1963	1974	1965	1965	1969	1969	1977	1977	1966	1963	1963

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	66806.50		29181.80			
ANNUAL MEAN	183		80.0		99.1	
HIGHEST ANNUAL MEAN					209	1995
LOWEST ANNUAL MEAN					.002	1977
HIGHEST DAILY MEAN	854	Feb 19	812	Dec 11	863	Apr 6 1963
LOWEST DAILY MEAN	.00	Apr 4	.00	Oct 1	.00	Oct 1 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 4	.00	Oct 1	.00	Oct 1 1962
ANNUAL RUNOFF (AC-FT)	132500		57880		71810	
10 PERCENT EXCEEDS	520		241		323	
50 PERCENT EXCEEDS	56		16		15	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated.

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'52", long 121°03'04", in SE 1/4 SW 1/4 sec.2, T.20 N., R.8 E., Plumas County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 300 ft downstream from diversion dam, 0.2 mi upstream from Feney Ravine, and 4.5 mi northeast of town of Strawberry Valley.

DRAINAGE AREA.--49.4 mi^2.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder and 130° V-notch weir since October 1982. Elevation of gage is 3,570 ft above sea level, from topographic map.

REMARKS.--Slate Creek Tunnel (station 11413250) diverts up to 900 ft^3/s from Slate Creek Reservoir, capacity, 223 acre-ft, at diversion dam 300 ft upstream, to Sly Creek Reservoir (station 11395400). Diversion began in February 1962. See schematic diagrams of South Fork Feather and Yuba River basins.

COOPERATION.--Records provided by Oroville-Wyandotte Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Creek only: Maximum discharge, 17,300 ft^3/s, Jan. 1, 1997, gage height, 17.20 ft, from rating curve extended above 5,500 ft^3/s on basis of computed flow over dam at gage heights 12.75, 15.90, 16.89 and 17.20 ft; minimum, 0.3 ft^3/s, Mar. 4, 5, 1962.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	16	15	12100	27	16	15	11	14	11	11	9.4
2	11	15	15	6940	26	16	15	11	14	11	11	9.5
3	11	14	15	2490	26	15	15	11	14	11	11	9.6
4	11	14	15	1460	26	15	15	11	14	11	11	9.5
5	10	14	806	1040	26	15	15	11	14	11	10	9.2
6	10	13	168	775	25	15	15	11	12	11	10	9.1
7	10	13	15	605	25	15	15	11	11	15	10	9.0
8	10	13	15	490	25	15	15	11	11	17	10	8.9
9	10	13	943	413	25	15	14	11	11	16	9.9	8.8
10	10	13	2410	348	25	15	14	11	11	16	9.9	8.8
11	9.9	12	2000	304	25	16	13	11	11	16	10	8.8
12	10	12	1920	272	25	16	13	11	11	15	10	8.9
13	10	12	1570	229	25	16	13	11	11	15	9.9	8.8
14	10	12	992	215	25	16	13	12	11	15	9.9	9.0
15	10	12	642	207	25	16	13	12	11	14	9.8	13
16	10	13	457	175	25	16	13	12	11	14	9.6	11
17	10	161	360	114	26	16	13	12	11	14	9.5	9.8
18	13	491	296	56	26	16	13	12	11	14	9.6	9.5
19	15	242	252	56	26	16	13	12	11	14	9.8	9.3
20	12	183	221	34	26	16	12	12	11	13	15	9.0
21	12	15	223	23	26	16	12	12	11	13	15	8.9
22	11	15	198	19	26	16	13	13	11	13	11	8.8
23	12	15	178	164	26	16	13	14	11	12	11	8.8
24	15	15	91	289	26	16	13	14	11	12	10	8.6
25	22	15	15	1240	21	16	13	14	11	12	10	8.5
26	16	15	302	2630	16	16	12	14	11	12	10	8.5
27	13	15	1250	1260	16	16	12	14	11	12	9.9	8.5
28	13	15	1410	714	16	16	14	14	11	12	9.8	8.4
29	24	15	2100	624	---	16	12	14	11	12	9.7	8.2
30	29	15	4960	436	---	16	11	14	11	12	9.6	8.2
31	20	---	7710	225	---	15	---	14	---	11	9.5	---
TOTAL	400.9	1438	31564	35947	683	487	402	378	346	407	322.4	274.3
MEAN	12.9	47.9	1018	1160	24.4	15.7	13.4	12.2	11.5	13.1	10.4	9.14
MAX	29	491	7710	12100	27	16	15	14	14	17	15	13
MIN	9.9	12	15	19	16	15	11	11	11	11	9.5	8.2
AC-FT	795	2850	62610	71300	1350	966	797	750	686	807	639	544

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

MEAN	25.6	56.4	159	257	198	216	184	197	48.1	11.8	11.0	10.2
MAX	437	545	1303	1334	1415	901	753	795	481	17.3	19.3	15.3
(WY)	1963	1974	1965	1970	1986	1983	1982	1983	1983	1969	1965	1983
MIN	5.85	7.51	5.80	9.04	8.49	6.61	6.12	6.15	6.95	5.17	3.82	6.13
(WY)	1971	1977	1977	1975	1973	1968	1968	1968	1973	1977	1977	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	66710.9		72649.6			
ANNUAL MEAN	182		199		114	
HIGHEST ANNUAL MEAN					352	1982
LOWEST ANNUAL MEAN					10.4	1976
HIGHEST DAILY MEAN	7710	Dec 31	12100	Jan 1	12100	Jan 1 1997
LOWEST DAILY MEAN	9.9	Oct 11	8.2	Sep 29	.86	Feb 18 1975
ANNUAL SEVEN-DAY MINIMUM	10	Oct 5	8.4	Sep 24	.95	Feb 21 1975
INSTANTANEOUS PEAK FLOW			17300	Jan 1	17300	Jan 1 1997
INSTANTANEOUS PEAK STAGE			17.20	Jan 1	17.20	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	132300		144100		82840	
10 PERCENT EXCEEDS	453		279		318	
50 PERCENT EXCEEDS	13		14		11	
90 PERCENT EXCEEDS	11		9.8		8.1	

11413320 DEADWOOD CREEK NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°33'00", long 121°05'36", in SW 1/4 SW 1/4 sec.33, T.20 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, on right bank 250 ft upstream of confluence with Owl Gulch, and 1.3 mi southeast of Strawberry Valley.

DRAINAGE AREA.--3.16 mi^2.

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder and 120° V-notch weir. Elevation of gage is 3,275 ft above sea level, from topographic map.

REMARKS.--Water from creek is diverted at gage to Deadwood Creek Powerplant (station 11413326). See schematic diagram of Yuba River Basin.

COOPERATION.--Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 400 ft^3/s, Jan. 1, 1997; minimum daily, 1.7 ft^3/s, several days in February

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	4.9	2.8	400	17	1.7	2.8	2.7	2.8	2.9	4.4	3.8
2	4.6	4.7	2.8	240	14	1.9	2.8	2.7	2.7	2.9	4.4	3.8
3	4.6	4.7	2.8	83	12	1.7	2.8	2.7	2.7	2.9	4.4	3.8
4	4.6	4.6	2.8	47	11	2.8	2.8	2.7	2.8	2.9	4.3	3.7
5	4.6	4.6	5.3	30	9.4	4.0	2.8	2.7	2.8	2.9	4.3	3.7
6	4.4	4.4	2.9	23	8.1	4.0	2.8	2.7	2.8	2.9	4.3	3.6
7	4.4	4.4	2.8	19	6.6	2.9	2.8	2.7	2.8	2.9	4.1	3.6
8	4.3	4.4	2.8	14	5.6	2.9	2.8	2.7	2.8	2.9	4.1	3.6
9	4.3	4.4	2.9	11	4.7	2.9	2.8	2.7	2.8	2.9	4.1	3.6
10	4.3	4.3	37	9.2	4.0	2.9	2.8	2.7	2.8	2.9	4.1	3.5
11	4.3	4.3	25	6.7	3.5	2.9	2.8	2.7	2.8	2.9	4.1	3.4
12	4.3	4.3	18	5.1	3.0	2.9	2.8	2.7	2.8	2.9	4.1	3.4
13	4.3	4.3	11	4.0	2.5	2.9	2.8	2.7	2.8	5.5	4.0	3.4
14	4.3	4.3	3.1	3.2	2.3	2.8	2.8	2.7	2.8	5.4	4.0	3.5
15	4.3	4.3	2.8	3.0	2.2	2.8	2.7	2.7	2.8	5.4	4.0	4.0
16	4.3	4.3	2.8	2.9	2.1	2.8	2.7	2.7	2.8	5.1	3.9	3.7
17	4.3	14	2.8	2.8	2.1	2.9	2.8	2.7	2.9	5.1	3.9	3.6
18	4.8	17	2.7	2.5	2.0	2.9	2.7	2.7	2.9	5.1	3.9	3.5
19	4.6	9.1	2.7	2.3	2.0	2.9	2.8	2.7	2.9	5.0	4.0	3.4
20	4.6	2.8	2.7	2.4	1.9	2.8	2.8	2.7	2.9	5.0	5.1	3.4
21	4.4	2.8	2.8	2.6	1.9	2.8	2.8	2.7	2.9	5.0	4.6	3.3
22	4.3	2.9	2.8	14	1.8	2.8	2.8	2.7	2.9	4.9	4.3	3.3
23	4.4	2.8	2.8	29	1.8	2.8	2.8	2.8	2.9	4.8	4.1	3.3
24	5.0	2.8	2.8	20	1.7	2.8	2.8	2.8	2.9	4.9	4.1	3.2
25	5.1	2.8	2.8	79	1.7	2.8	2.8	2.8	2.9	4.8	4.0	3.2
26	4.7	2.8	2.8	97	1.7	14	2.7	2.8	2.9	4.8	4.0	3.2
27	4.6	2.7	36	54	1.7	14	2.7	2.8	2.9	4.7	3.9	3.2
28	4.4	2.8	41	37	1.7	2.8	2.7	2.8	2.9	4.7	3.9	3.2
29	9.3	2.7	32	27	---	2.8	2.7	2.8	2.9	4.7	3.9	3.2
30	6.3	2.7	94	23	---	2.8	2.7	2.8	2.9	4.6	3.8	3.2
31	5.3	---	190	20	---	2.8	---	2.8	---	4.6	3.8	---
TOTAL	146.6	141.9	548.3	1313.7	130.0	109.5	83.2	84.6	85.2	128.9	127.9	104.3
MEAN	4.73	4.73	17.7	42.4	4.64	3.53	2.77	2.73	2.84	4.16	4.13	3.48
MAX	9.3	17	190	400	17	14	2.8	2.8	2.9	5.5	5.1	4.0
MIN	4.3	2.7	2.7	2.3	1.7	1.7	2.7	2.7	2.7	2.9	3.8	3.2
AC-FT	291	281	1090	2610	258	217	165	168	169	256	254	207
a	0	173	1630	2360	2000	1350	861	555	317	57	0	0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

MEAN	3.76	3.92	8.71	22.2	7.73	10.5	5.73	5.55	3.04	3.40	3.41	3.73
MAX	4.73	4.73	17.7	42.4	13.0	22.8	10.7	10.7	3.44	4.16	4.13	4.35
(WY)	1997	1997	1997	1997	1996	1995	1995	1995	1995	1997	1997	1996
MIN	2.04	3.09	3.61	4.32	4.64	3.53	2.77	2.73	2.84	2.81	2.91	3.37
(WY)	1995	1995	1995	1996	1997	1997	1997	1997	1997	1996	1995	1995

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1995 - 1997	
ANNUAL TOTAL	2123.1		3004.1			
ANNUAL MEAN	5.80		8.23		6.83	
HIGHEST ANNUAL MEAN					8.23	1997
LOWEST ANNUAL MEAN					4.63	1996
HIGHEST DAILY MEAN	190	Dec 31	400	Jan 1	400	Jan 1 1997
LOWEST DAILY MEAN	2.5	Jan 1	1.7	Feb 24	1.7	Feb 24 1997
ANNUAL SEVEN-DAY MINIMUM	2.5	Jan 1	1.7	Feb 23	1.7	Feb 23 1997
ANNUAL RUNOFF (AC-FT)	4210		5960		4950	
TOTAL DIVERSION (AC-FT) a	12640		9290		10830	
10 PERCENT EXCEEDS	7.1		10		11	
50 PERCENT EXCEEDS	2.9		2.9		2.9	
90 PERCENT EXCEEDS	2.7		2.7		2.7	

a Diversion, in acre-feet, to Deadwood Creek Powerplant, provided by Yuba County Water Agency.

11413323 OWL GULCH NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°32'44", long 121°05'39", in SW 1/4 SW 1/4 sec.33, T.20 N., R.8 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, on left bank 250 ft upstream from Deadwood Creek, and 1.3 mi southeast of Strawberry Valley.

DRAINAGE AREA.--2.07 mi^2.

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder and 120° V-notch weir. Elevation of gage is 3,050 ft above sea level, from topographic map.

REMARKS.--Water from creek is diverted at gage to Deadwood Creek Powerplant (station 11413326). See schematic diagram of Yuba River Basin.

COOPERATION.--Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 346 ft^3/s, Jan. 1, 1997; minimum daily, 0.58 ft^3/s, Sept. 17-22, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.8	1.9	346	14	2.4	2.4	2.1	2.1	2.3	.95	.70
2	1.7	1.8	1.9	206	13	2.6	2.1	2.1	2.1	2.2	.92	.70
3	1.7	1.7	1.9	72	12	2.4	2.2	2.0	2.1	2.3	.90	.70
4	1.7	1.7	2.5	41	11	2.7	2.2	2.0	2.1	2.2	.64	.70
5	1.6	1.7	5.5	26	11	2.4	2.2	2.0	2.1	2.2	.86	.69
6	1.6	1.7	1.8	21	9.8	2.5	2.2	2.0	2.3	2.3	.84	.69
7	1.6	1.7	1.9	22	8.9	2.5	2.2	2.0	2.3	2.3	.83	.68
8	1.7	1.7	2.0	14	8.0	2.4	2.3	2.0	2.3	2.2	.83	.67
9	1.7	1.7	4.3	12	7.2	2.4	2.4	2.0	2.2	2.1	.81	.67
10	4.4	1.7	15	11	6.0	2.4	2.2	2.0	2.2	2.2	.80	.66
11	2.4	1.7	13	8.7	4.6	2.4	2.2	2.1	2.2	2.1	.80	.65
12	1.8	1.6	12	7.2	3.7	2.4	2.2	2.1	2.2	2.2	.78	.64
13	1.7	1.6	11	6.6	3.4	4.4	2.2	2.0	2.2	2.3	.76	.63
14	1.7	1.6	3.0	8.6	3.2	2.4	2.2	2.1	2.2	2.3	.76	.61
15	1.6	1.6	2.3	5.4	3.2	2.3	2.1	2.0	2.2	2.2	.76	.61
16	1.6	1.6	1.8	9.8	3.2	2.4	2.0	2.0	2.2	2.3	.75	.60
17	1.8	5.0	1.7	8.0	3.2	2.4	2.0	2.0	2.3	2.2	.74	.58
18	1.7	7.0	1.7	5.4	3.2	2.4	2.0	2.0	2.3	2.2	.73	.58
19	1.7	3.4	1.7	5.4	3.2	2.3	2.1	2.0	2.3	2.2	.73	.58
20	1.7	1.8	1.7	5.4	3.2	2.4	2.0	2.0	2.3	2.1	.73	.58
21	1.7	1.8	1.8	7.0	3.2	2.3	1.8	2.0	2.3	2.0	.73	.58
22	1.9	1.8	1.7	23	3.2	2.3	1.9	2.0	2.3	2.0	.73	.58
23	1.6	1.8	1.7	19	3.2	2.3	2.0	2.0	2.3	2.0	.73	.92
24	1.8	1.8	1.7	15	3.2	2.3	2.0	2.0	2.3	2.0	.73	1.3
25	1.8	1.8	1.7	32	3.2	2.4	2.2	2.0	2.3	1.8	.73	1.3
26	1.7	1.9	1.6	36	3.1	2.3	2.2	2.0	2.3	1.6	.73	1.3
27	1.7	1.9	32	35	3.1	2.3	2.1	2.0	2.3	1.6	.73	1.2
28	1.7	2.0	35	30	2.5	2.3	2.1	2.0	2.3	1.9	.72	1.2
29	3.2	1.9	28	23	---	2.4	2.1	2.0	2.3	1.5	.71	1.2
30	2.3	1.8	82	18	---	2.4	2.1	2.0	2.3	1.5	.70	1.2
31	1.9	---	164	15	---	2.4	---	2.0	---	1.5	.70	---
TOTAL	58.4	62.6	439.8	1094.5	159.7	76.2	63.9	62.5	67.2	63.8	23.86	23.70
MEAN	1.88	2.09	14.2	35.3	5.70	2.46	2.13	2.02	2.24	2.06	.77	.79
MAX	4.4	7.0	164	346	14	4.4	2.4	2.1	2.3	2.3	.95	1.3
MIN	1.6	1.6	1.6	5.4	2.5	2.3	1.8	2.0	2.1	1.5	.64	.58
AC-FT	116	124	872	2170	317	151	127	124	133	127	47	47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

MEAN	1.53	1.76	6.15	19.0	7.57	8.20	4.47	5.18	2.04	1.92	1.45	1.43
MAX	1.88	2.09	14.2	35.3	12.8	16.3	8.74	10.6	2.24	2.06	1.82	1.76
(WY)	1997	1997	1997	1997	1996	1995	1995	1995	1997	1997	1995	1995
MIN	.99	1.56	2.11	4.09	3.97	2.46	2.13	2.02	1.79	1.74	.77	.79
(WY)	1995	1995	1996	1996	1995	1997	1997	1997	1996	1996	1997	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1995 - 1997	
ANNUAL TOTAL	1622.2		2196.16			
ANNUAL MEAN	4.43		6.02		5.07	
HIGHEST ANNUAL MEAN					6.02	1997
LOWEST ANNUAL MEAN					3.36	1996
HIGHEST DAILY MEAN	164	Dec 31	346	Jan 1	346	Jan 1 1997
LOWEST DAILY MEAN	1.3	May 20	.58	Sep 17	.58	Sep 17 1997
ANNUAL SEVEN-DAY MINIMUM	1.6	Aug 27	.58	Sep 16	.58	Sep 16 1997
ANNUAL RUNOFF (AC-FT)	3220		4360		3670	
10 PERCENT EXCEEDS	8.2		9.3		11	
50 PERCENT EXCEEDS	1.8		2.1		2.0	
90 PERCENT EXCEEDS	1.7		.73		1.4	

11413510 NEW COLGATE POWERPLANT NEAR FRENCH CORRAL, CA

LOCATION.--Lat 39°19'51", long 121°11'23", in NE 1/4 SE 1/4 sec.16, T.17 N., R.7 E., Yuba County, Hydrologic Unit 18020125, at powerplant on right bank of Yuba River, 0.3 mi upstream from Dobbins Creek, and 2.3 mi northwest of French Corral.

PERIOD OF RECORD.--October 1966 to current year. Prior to October 1969, published as "Colgate Powerplant."

GAGE.--Recorded output from powerplant turbines.

REMARKS.--Water is diverted from North Yuba River at New Bullards Bar Reservoir (station 11413515). Colgate Powerplant was rebuilt during the 1970 water year with an increased capacity. Prior to Oct. 31, 1973, Browns Valley Ditch diverted up to 10 ft^3/s at times from the head of the penstock for use in irrigation. See schematic diagram of Yuba River basin.

COOPERATION.--Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2070	1560	1090	.00	3480	2080	676	1200	345	1070	2510	1460
2	1860	1150	754	.00	3520	1950	1070	1190	849	1280	2770	1400
3	2180	1550	1260	.00	3530	2830	1050	1080	879	1220	1410	1220
4	1710	868	1310	.00	3520	3190	1020	1130	387	711	2480	544
5	1750	1520	101	.00	3520	2450	15	1410	.00	986	2510	423
6	1400	1250	85	1510	3520	2160	411	1330	101	524	2410	461
7	1310	1170	.00	3150	3520	2810	525	1600	563	1790	2970	237
8	1430	1420	1550	3520	3520	2930	518	489	713	1130	2680	299
9	1540	1030	2420	3510	3520	2350	719	1110	708	1670	2850	516
10	1630	1160	300	3520	3520	3040	380	1020	726	1930	2810	373
11	1360	1320	194	3510	3500	2880	569	161	863	2160	2980	633
12	1220	1400	198	3510	3510	2540	557	157	931	2180	2640	489
13	1220	1160	200	3510	3510	2410	456	95	872	2170	2390	640
14	1960	1390	203	3500	2900	2390	629	311	764	2190	2280	489
15	1350	1250	205	3480	3130	2180	363	350	686	2320	2020	789
16	1340	1020	1050	3500	3230	1650	471	672	772	2530	2350	786
17	1490	797	2660	3510	2960	1890	297	395	1030	1980	2130	742
18	1400	77	3270	3510	3170	1620	198	98	895	2370	2590	592
19	1100	85	3390	3510	3190	2080	.00	134	1060	2200	2130	752
20	1470	515	3480	3510	3030	1160	.00	130	835	1870	2580	16
21	1480	937	2300	3500	3430	2060	1230	846	980	2490	2200	394
22	1320	940	1350	3500	3230	1670	1160	419	753	2440	2430	626
23	1380	15	2270	3510	2620	1350	1130	673	1100	2030	2510	1380
24	1520	5.0	2910	3510	3340	1710	1020	321	723	2390	2350	1490
25	1290	1110	3020	3510	3460	1540	1990	339	1140	2210	2080	559
26	872	1520	3230	3510	3170	1210	637	839	911	2440	2160	71
27	1530	1270	3300	3500	3060	1450	1580	706	1440	2310	2420	63
28	1440	860	2330	3520	3470	1010	1520	710	650	2090	2510	91
29	1450	1570	2350	3530	---	190	2020	1250	1250	2600	2450	988
30	1200	1170	2090	3530	---	830	1070	1330	770	2480	1810	899
31	1180	---	535	3530	---	1450	---	719	---	1950	1990	---
TOTAL	45452	31089.0	49405.00	88910.00	93080	61060	23281.00	22214	23696.00	59711	74400	19422
MEAN	1466	1036	1594	2868	3324	1970	776	717	790	1926	2400	647
MAX	2180	1570	3480	3530	3530	3190	2020	1600	1440	2600	2980	1490
MIN	872	5.0	.00	.00	2620	190	.00	95	.00	524	1410	16
AC-FT	90150	61670	97990	176400	184600	121100	46180	44060	47000	118400	147600	38520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1997, BY WATER YEAR (WY)

MEAN	1218	1150	1403	1527	1620	1599	1624	1453	1609	1732	1892	1385
MAX	2497	2433	3262	3496	3449	3519	3508	3565	3629	3057	3130	2995
(WY)	1976	1976	1975	1984	1995	1980	1993	1982	1983	1983	1984	1980
MIN	.000	302	96.6	152	54.6	39.3	103	206	404	386	319	.000
(WY)	1975	1978	1978	1977	1977	1977	1979	1977	1977	1977	1977	1974

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1971 - 1997	
ANNUAL TOTAL	772702.00		591720.00			
ANNUAL MEAN	2111		1621		1518	
HIGHEST ANNUAL MEAN					2686	1983
LOWEST ANNUAL MEAN					316	1977
HIGHEST DAILY MEAN	3610	May 30	3530	Jan 29	4200	Jun 2 1971
LOWEST DAILY MEAN	.00	Dec 7	.00	Dec 7	.00	Mar 14 1971
ANNUAL SEVEN-DAY MINIMUM	336	Dec 10	280	Apr 14	.00	Feb 29 1972
ANNUAL RUNOFF (AC-FT)	1533000		1174000		1100000	
10 PERCENT EXCEEDS	3520		3480		3360	
50 PERCENT EXCEEDS	2130		1400		1230	
90 PERCENT EXCEEDS	839		298		145	

11413515 NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°23'34", long 121°08'25", in SE 1/4 NW 1/4 sec.25, T.18 N., R.7 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, in center of dam on North Yuba River, 2.2 mi upstream from Middle Yuba River, and 2.4 mi northwest of North San Juan.

DRAINAGE AREA.--489 mi^2.

PERIOD OF RECORD.--January 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Yuba County Water Agency).

REMARKS.--Reservoir is formed by concrete-arch dam with a concrete-sidehill spillway. Spill controlled by three 30-ft by 53-ft radial gates. Storage began in January 1969. Usable capacity, 727,380 acre-ft between elevations 1,732.0 ft, minimum power pool, and 1,955.0 ft, normal gross pool. Dead storage, 233,920 acre-ft. Total capacity at normal gross pool, 961,300 acre-ft, elevation, 1,955.0 ft. Water is released to New Colgate Powerplant (station 11413510) through a tunnel at the dam. Water is diverted into the reservoir from Middle Yuba River via Lohman Ridge Tunnel to Oregon Creek then via Camptonville Tunnel (stations 11408870 and 11409350). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Yuba River basin.

COOPERATION.--Records provided by Yuba County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 972,224 acre-ft, June 27, 1995, elevation, 1,957.27 ft; minimum since reservoir first filled, 178,230 acre-ft, Dec. 29, 1980, elevation, 1,700.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 958,286 acre-ft, Jan. 2, elevation, 1,954.37 ft; minimum, 583,825 acre-ft, Nov. 16, elevation, 1,863.02 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Yuba County Water Agency in 1969)

1,600	64,900	1,750	270,110
1,630	90,570	1,800	389,977
1,660	122,993	1,850	539,748
1,690	162,983	1,900	721,130
1,720	211,768	1,960	985,471

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	680678	611738	607710	934670	788814	713542	717962	803137	865466	860165	762222	636070
2	677664	610024	608208	958286	786464	713818	719347	804795	865689	858665	757424	633841
3	674012	607603	607319	910398	783449	711771	720614	806540	865823	857011	755093	631870
4	671207	606537	607319	868012	780065	708669	721804	808330	867922	856568	750772	631324
5	668370	604196	627035	835985	776193	706867	724703	809654	870474	855550	746385	631032
6	666182	602319	636875	813075	771463	705810	726773	811107	872222	855328	742258	630486
7	664111	600587	642826	800590	767411	703309	728448	812005	873030	852629	737059	630377
8	661858	598436	644447	793275	763990	700465	730244	815218	873255	851038	732365	630086
9	659272	596922	650366	787387	760333	698948	731684	817451	873434	848436	727331	629431
10	656655	595166	679457	782362	757506	696075	733526	819990	873794	845400	722439	629032
11	654492	593202	708277	776900	755012	693558	734970	824175	873614	842020	717211	628051
12	652557	591032	741814	771421	752319	691703	736456	828200	873345	838475	712597	627543
13	650737	589286	764442	766709	749552	689890	738226	832326	873255	834851	708473	626637
14	647439	587091	778607	764031	747764	688041	739636	835723	873075	831326	704598	626200
15	645296	585144	788520	762633	745454	686849	741733	839087	873255	827507	701204	625259
16	643157	583825	794498	760702	742864	687618	743916	841626	872985	823267	697084	624173
17	641206	585700	795849	758488	741289	688272	746588	844478	872267	820033	693403	623162
18	638745	594745	795047	755870	739112	689120	750487	847732	871684	816034	688888	622331
19	637169	600058	793317	753012	737260	689081	758447	850686	870832	812390	685198	621356
20	634826	604798	791168	750894	735572	690815	765225	853557	870295	809312	681481	621537
21	632454	605543	793486	749145	732966	691047	771587	854796	869578	805178	677855	621248
22	630413	607746	796991	754766	730604	692321	777066	856391	869086	801014	673671	620348
23	628268	611309	798387	756278	729086	694525	783365	858166	868012	797583	669352	618080
24	625983	613525	797329	752197	726215	696114	787806	860431	867609	793612	665304	615567
25	624354	613310	795343	766833	723035	698015	789402	862256	866403	789906	661407	614778
26	623198	611916	800293	795680	720337	700698	793275	862879	865600	785793	657701	614993
27	620815	610738	807094	803094	717883	703309	795638	863592	863770	781902	653487	615245
28	618583	610346	792221	800335	714488	706631	798006	864397	863325	778440	649142	615388
29	617110	608458	785500	795089	---	710946	798895	864082	861988	773950	644927	613919
30	615710	607213	803817	792474	---	713897	801269	863681	861143	769765	641978	612631
31	614098	---	838825	790412	---	715434	---	864127	---	766503	638488	---
MAX	680678	613525	838825	958286	788814	715434	801269	864397	873794	860165	762222	636070
MIN	614098	583825	607319	749145	714488	686849	717962	803137	861143	766503	638488	612631
a	1871.61	1869.68	1928.25	1916.96	1898.32	1898.56	1919.53	1933.98	1933.31	1911.22	1878.34	1871.20
b	-70102	-6885	+231612	-48413	-75924	+946	+85835	+62858	-2984	-94640	-128015	-25857

CAL YR 1996 b +156119
WTR YR 1997 b -71569

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°23'26", long 121°08'36", in SE 1/4 NW 1/4 sec.25, T.18 N., R.7 E., Yuba County, Hydrologic Unit 18020125, Plumas National Forest, on right bank at old Colgate Dam, 0.2 mi downstream from New Bullards Bar Dam, and 2.5 mi northwest of North San Juan.

DRAINAGE AREA.--490 mi^2.

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder, and sharp-crested low-water control since Oct. 1, 1986. Elevation of gage is 1,350 ft above sea level, from topographic map. Auxiliary water-stage recorder for high flow 0.9 mi downstream at different datum.

REMARKS.--Records good. Flow regulated by New Bullards Bar Reservoir (station 11413515) since 1969. Prior to 1969, flow regulated by Bullards Bar Reservoir (usable capacity, 31,500 acre-ft). New Colgate Powerplant (station 11413510) diverts at New Bullards Bar Dam 0.2 mi upstream. Water is diverted to Feather River basin through Slate Creek Tunnel (station 11413250). Camptonville Tunnel (station 11409350) diverts water from Middle Yuba River to New Bullards Bar Reservoir. Records include flow over New Bullards Bar Reservoir spillway. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,200 ft^3/s, Jan. 22, 1970, gage height, 35.29 ft, at auxiliary gage, from rating curve extended above 40,000 ft^3/s on basis of computation of flow over old Colgate Dam; minimum daily, 0.42 ft^3/s, Nov. 5, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 49.8 ft, from floodmarks, discharge, 91,600 ft^3/s, at auxiliary gage, from computation of flow over old Colgate Dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	6.4	6.7	36100	1830	6.4	6.4	6.8	6.8	6.6	6.1	6.4
2	6.0	6.4	6.2	45800	1800	6.8	6.4	6.8	6.8	6.6	6.2	6.4
3	6.2	6.4	6.2	43400	1760	6.4	6.4	6.9	6.9	6.6	6.2	6.3
4	6.2	6.4	7.1	32500	1710	6.4	6.4	6.9	7.0	6.6	6.2	6.2
5	6.2	6.7	9.5	25400	1650	6.4	6.4	6.9	6.8	6.6	6.2	6.2
6	6.2	7.3	6.5	18300	1840	6.4	6.4	6.7	6.8	6.6	6.2	6.2
7	6.2	6.4	6.4	9370	1370	6.7	6.4	6.8	6.8	6.6	6.2	6.2
8	6.2	6.4	6.2	5120	892	6.4	6.4	6.9	6.8	6.6	6.2	6.2
9	7.1	6.4	6.6	3760	826	6.4	6.4	6.9	6.8	6.6	6.2	6.2
10	6.4	6.4	8.7	2980	343	6.4	6.6	6.9	6.8	6.6	6.2	6.2
11	6.4	6.4	7.8	2820	11	6.4	6.7	6.9	6.8	6.6	6.2	6.2
12	6.4	6.4	7.8	2640	9.9	6.4	6.7	6.9	7.0	6.6	6.2	6.2
13	6.4	6.4	7.3	1800	9.5	6.4	6.8	6.9	9.1	6.6	6.2	6.2
14	6.4	6.4	6.6	536	9.4	6.4	6.8	6.9	6.8	6.6	6.2	6.2
15	6.4	6.4	6.6	12	9.5	6.4	6.8	7.0	6.8	6.6	6.2	6.2
16	6.4	6.4	6.5	10	9.2	6.5	6.8	7.1	6.8	6.6	6.2	6.2
17	6.4	7.9	6.4	10	9.3	6.5	6.7	7.1	6.8	6.6	6.2	6.2
18	6.5	8.0	6.4	9.9	6.4	6.4	6.8	7.1	6.8	6.6	6.2	6.2
19	6.4	7.4	6.3	9.7	6.4	6.4	6.8	7.1	6.8	6.6	6.2	6.2
20	6.4	6.8	6.3	11	6.4	6.4	6.6	6.8	6.8	6.6	6.3	6.2
21	6.4	6.3	8.3	11	6.4	6.4	6.7	6.5	6.8	6.6	6.2	6.2
22	6.4	7.0	7.5	28	6.4	6.4	6.8	6.7	6.8	6.6	6.2	6.2
23	6.4	6.7	6.8	1690	6.4	6.4	6.8	7.0	6.7	6.6	6.2	6.2
24	6.4	6.2	6.6	3080	6.4	6.4	6.8	6.9	6.6	6.5	6.2	6.2
25	6.4	6.0	6.4	2190	6.4	6.4	7.0	6.8	6.6	6.4	6.2	6.2
26	6.4	5.8	8.6	577	6.4	6.4	6.8	6.8	6.6	6.4	6.2	6.2
27	6.4	6.2	7700	3850	6.4	6.4	6.8	6.8	6.6	6.4	6.2	6.2
28	6.4	6.2	18100	6160	6.4	6.4	6.8	6.8	6.6	6.4	6.3	7.5
29	6.6	6.2	16100	6000	---	6.4	6.8	6.8	6.6	6.4	6.4	8.6
30	6.5	6.2	17100	3600	---	6.4	6.8	6.8	6.6	6.2	6.4	7.9
31	6.4	---	28100	2530	---	6.4	---	6.8	---	6.0	6.4	---
TOTAL	197.3	196.5	87282.3	260304.6	14159.2	199.3	199.8	213.0	205.3	202.5	192.9	191.9
MEAN	6.36	6.55	2816	8397	506	6.43	6.66	6.87	6.84	6.53	6.22	6.40
MAX	7.1	8.0	28100	45800	1840	6.8	7.0	7.1	9.1	6.6	6.4	8.6
MIN	5.8	5.8	6.2	9.7	6.4	6.4	6.4	6.5	6.6	6.0	6.1	6.2
AC-FT	391	390	173100	516300	28080	395	396	422	407	402	383	381

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.2	38.2	310	876	925	694	419	551	241	39.6	7.62	8.16
MAX	381	404	3570	8990	7457	4648	4144	4289	3759	759	25.4	45.9
(WY)	1975	1967	1984	1970	1986	1995	1982	1967	1967	1967	1967	1969
MIN	2.60	3.41	4.97	4.65	2.10	5.32	3.09	4.12	1.92	3.48	3.21	2.89
(WY)	1971	1971	1978	1981	1971	1976	1970	1970	1970	1977	1977	1966

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	268178.1		363544.6			
ANNUAL MEAN	733		996		342	
HIGHEST ANNUAL MEAN					1560	1967
LOWEST ANNUAL MEAN					4.62	1977
HIGHEST DAILY MEAN	28100	Dec 31	45800	Jan 2	48200	Feb 19 1986
LOWEST DAILY MEAN	5.6	Sep 3	5.8	Oct 1	.42	Nov 5 1966
ANNUAL SEVEN-DAY MINIMUM	5.6	Sep 3	6.1	Oct 1	.68	Nov 1 1966
INSTANTANEOUS PEAK FLOW			47200	Jan 2	56200	Jan 22 1970
INSTANTANEOUS PEAK STAGE			34.55	Jan 2	35.29	Jan 22 1970
ANNUAL RUNOFF (AC-FT)	531900		721100		247500	
10 PERCENT EXCEEDS	1780		552		76	
50 PERCENT EXCEEDS	6.5		6.6		6.7	
90 PERCENT EXCEEDS	6.0		6.2		4.7	

11413940 KIDD LAKE NEAR SODA SPRINGS, CA

LOCATION.--Lat 39°18'41", long 120°25'54", in SW 1/4 NW 1/4 sec.29, T.17 N., R.14 E., Placer County, Hydrologic Unit 18020125, on outlet structure on Kidd Lake Dam and 3.0 mi west of Soda Springs.

DRAINAGE AREA.--1.00 mi^2.

PERIOD OF RECORD.--July 1991 to current year. Unpublished records for water years 1966-91 available in files of the U.S. Geological Survey.

GAGE.--Staff gage, observed occasionally. Water-stage recorder not operational entire year. Datum of gage is 6,600.3 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1991, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1855. Usable capacity, 1,505 acre-ft between gage heights 0.0 ft, invert of outlet, and 27.3 ft, crest of spillway. Water is used for power development downstream. The recording and sensing equipment did not operate the entire year. Therefore, records, including extremes, represent usable contents at time of observation.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,559 acre-ft, June 6, 22, 1995, May 22, 1996, gage height, 27.9 ft; minimum recorded, no storage Dec. 1, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,541 acre-ft, May 26, gage height, 27.7 ft; minimum observed, 282 acre-ft, Oct. 28, gage height, 8.60 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated April 1965)

0	0	16	654
4	117	20	918
8	259	28	1568

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	1505	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	839	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	1387	---	---
10	661	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	1217	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	1541	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	282	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	296
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11413945 LOWER CASCADE LAKE NEAR SODA SPRINGS, CA

LOCATION.--Lat 39°18'12", long 120°26'19", in SE 1/4 SE 1/4 sec.30, T.17 N., R.14 E., Placer County, Hydrologic Unit 18020125, Tahoe National Forest, on outlet structure on Lower Cascade Lake Dam and 3.6 mi southwest of Soda Springs.

DRAINAGE AREA.--1.02 mi^2.

PERIOD OF RECORD.--July 1991 to current year. Unpublished records for water years 1966-90 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 6,560.4 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1991, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed on natural lake by rock-fill dam completed in 1860. Usable capacity, 484 acre-ft between gage heights 0.0 ft, invert of outlet, and 21.5 ft, crest of spillway. Water is used for power development downstream. Records, including extremes, represent usable contents at 2400 hours. Missing days are due to equipment failure.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 617 acre-ft, Apr. 29, 1995, gage height, 25.89 ft; no storage on some days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum contents recorded, 492 acre-ft, May 1, 10, gage height, 21.74 ft; minimum contents recorded, 7 acre-ft, Nov. 8-16, gage height, 0.44 ft..

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated April 1965)

0	0	16	318
4	62	20	435
8	133	22	500
12	218	23	530

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	20	141	---	---	---	---	492	487	480	477	471
2	---	19	141	---	---	---	---	491	487	489	477	471
3	90	17	141	---	---	---	---	491	489	489	477	471
4	---	16	143	---	---	---	---	491	490	489	477	464
5	91	14	177	---	---	---	---	491	489	488	477	---
6	---	10	179	---	---	---	---	490	489	488	477	---
7	---	8	181	---	---	---	---	491	489	488	476	---
8	---	7	183	---	---	---	---	491	488	487	476	---
9	---	7	186	---	---	---	---	491	488	487	476	---
10	64	7	187	---	---	---	---	492	488	486	475	---
11	60	7	188	---	---	---	---	491	488	485	475	---
12	57	7	---	---	---	---	---	491	488	485	474	---
13	55	7	---	---	---	---	---	491	488	484	474	---
14	52	7	---	---	---	---	---	491	487	484	474	---
15	50	7	---	---	---	---	---	490	487	483	474	---
16	47	7	---	---	---	---	---	490	487	483	474	---
17	44	53	---	---	---	---	---	491	487	482	474	---
18	48	88	---	---	---	---	---	491	486	482	474	---
19	42	87	---	---	---	---	---	490	486	481	473	---
20	39	60	---	---	---	---	---	489	486	481	475	---
21	39	123	---	---	---	---	---	488	485	480	475	---
22	38	132	---	---	---	---	---	488	484	480	474	---
23	36	135	---	---	---	---	---	490	484	480	474	---
24	51	136	---	---	---	---	---	490	483	479	474	403
25	39	137	---	---	---	---	---	489	483	479	474	---
26	32	137	---	---	---	---	---	489	482	478	473	---
27	30	137	---	---	---	---	---	488	482	478	473	---
28	27	137	---	---	---	---	---	488	481	478	472	---
29	29	136	---	---	---	---	---	488	480	477	472	318
30	25	136	---	---	---	---	---	487	480	477	472	---
31	22	---	---	---	---	---	---	487	---	476	472	---
MAX	---	137	---	---	---	---	---	492	490	489	477	---
MIN	---	7	---	---	---	---	---	487	480	476	472	---
a	1.44	8.13						21.60	21.39	21.26	21.11	
b	-77	+114							-7	-4	-4	

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11414090 FORDYCE LAKE NEAR CISCO, CA

LOCATION.--Lat 39°22'44", long 120°29'40", in NE 1/4 SE 1/4 sec.34, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near left abutment of Fordyce Dam on Fordyce Creek and 5.3 mi northeast of Cisco.

DRAINAGE AREA.--31.7 mi^2.

PERIOD OF RECORD.--October 1977 to current year. Periodic gage heights only for October 1965 to September 1976 and daily contents for water year 1977 are in the files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 6,290.5 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to Nov. 29, 1976, nonrecording gage on upstream side of dam at same datum.

REMARKS.--Jan. 2 to Feb. 5 missing due to equipment malfunction. Lake is formed by a rockfill dam; storage began in 1926. In 1980 the capacity of Fordyce Lake was increased by the addition of 3 ft of flashboards. Capacity, 49,903 acre-ft between gage heights 0.85 ft, bottom of outlet valve, and 114.6 ft, top of flashboards in spillway. Released water flows down Fordyce Creek (station 11414100) to Lake Spaulding (station 11414140) for use in a power and irrigation system. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 49,903 acre-ft, June 27, July 4, 6, 1982, June 9, 15-17, 1984, and several days in June 1989, gage height, 114.60 ft; minimum, 250 acre-ft, Oct. 31 to Nov. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, unknown; minimum, 1,401 acre-ft, Oct. 26, gage height, 14.06 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., dated May 1981)

4	219	20	2,608	40	8,183	80	26,770
5	278	25	3,827	50	11,797	90	32,820
10	774	30	5,170	60	16,174	100	39,342
15	1,570	35	6,628	70	21,196	114.6	49,903

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1693	2129	9260	35439	---	39139	30915	39839	49754	42102	31229	22823
2	1695	2152	9481	---	---	39173	30567	39601	49677	41479	30885	22566
3	1702	2178	9682	---	---	39200	30359	39478	49700	40820	30548	22371
4	1706	2201	9802	---	---	38875	30384	39587	49685	40229	30207	22181
5	1721	2225	e9900	---	---	38324	30414	40085	49517	39601	29868	22024
6	1718	2244	e10000	---	39281	37790	30432	41124	49593	38976	29687	21847
7	1687	2233	e10100	---	39274	37253	30451	42271	49662	38499	29638	21675
8	1697	2214	e10200	---	39261	36751	30499	43325	49731	38170	29584	21499
9	1697	2201	e10300	---	39227	36246	30536	44142	49723	37843	29529	21329
10	1628	2190	e10400	---	39206	35770	30536	44982	49585	37511	29475	21154
11	1586	2184	e10500	---	39179	35323	30530	45772	49540	37180	29258	20974
12	1558	2182	e14020	---	39159	34871	30561	46642	49540	36843	28934	20805
13	1552	2167	e17550	---	39145	34397	30646	47276	49524	36508	28623	20622
14	1549	2112	e17700	---	39118	33950	30836	47659	49540	36168	28308	20460
15	1545	2041	e17850	---	39112	33557	31180	47959	49616	35829	27987	20298
16	1560	1977	17998	---	39098	33216	31661	48087	49455	35485	27673	20127
17	1587	2663	18251	---	39145	32814	32232	48329	49142	35155	27355	19961
18	1625	3944	18406	---	39145	32413	32908	48746	48799	34826	27033	19807
19	1554	4646	18471	---	39145	32089	34723	49058	48412	34486	26729	19668
20	1498	5235	18597	---	39145	31822	35796	49112	48019	34154	26444	19514
21	1501	5857	18773	---	39145	31574	37286	48997	47554	33823	26142	19376
22	1558	6691	18924	---	39139	31401	38177	48700	47037	33487	25831	19208
23	1582	7133	18975	---	39139	31315	39703	48602	46509	33159	25521	19056
24	1567	7492	19005	---	39125	31284	40133	48473	45970	32977	25219	18828
25	1460	7810	19040	---	39118	31266	40318	48389	45427	32927	24911	18672
26	1401	8074	19259	---	39125	31365	40600	48541	44887	32876	24612	18517
27	1439	8332	19452	---	39159	31513	40903	48913	44300	32826	24319	18331
28	2008	8589	19534	---	39139	31562	40841	49432	43761	32594	24016	18182
29	2054	8802	19899	---	---	31494	40545	49816	43197	32257	23716	18013
30	2081	8987	21430	---	---	31395	40202	49900	42666	31915	23422	17864
31	2110	---	24195	---	---	31204	---	49739	---	31574	23119	---
MAX	2110	8987	24195	---	---	39200	40903	49900	49754	42102	31229	22823
MIN	1401	1977	9260	---	---	31204	30359	39478	42666	31574	23119	17864
a	17.73	42.41	75.50		99.70	87.40	101.26	114.39	104.80	88.00	73.56	63.49
b	+421	+6877	+15208			-7935	+8998	+9537	-7073	-11092	-8455	-5255

CAL YR 1996 MAX 49816 MIN 1401 b +4218
WTR YR 1997 MIN 1401 b +16175

e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA

LOCATION.--Lat 39°22'48", long 120°29'54", in NW 1/4 SE 1/4 sec.34, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 850 ft downstream from Fordyce Dam, and 5.3 mi northeast of Cisco.

DRAINAGE AREA.--31.7 mi^2.

PERIOD OF RECORD.--June 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,250 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Fordyce Lake (station 11414090). See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft^3/s, July 9, 1974, gage height, 7.90 ft in gage well, 6.82 ft from high-water marks, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft^3/s, Jan. 2-9, 1979.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	5.5	27	78	79	37	285	501	394	300	175	152
2	5.6	5.4	27	1330	77	37	285	499	351	317	174	152
3	5.5	5.4	27	1700	73	37	196	500	387	328	174	151
4	5.2	5.3	29	1030	70	148	103	502	910	326	174	151
5	5.1	5.4	37	691	67	315	103	342	486	325	173	150
6	4.9	5.4	30	520	63	314	103	28	240	324	93	150
7	4.6	20	30	328	60	311	103	29	233	254	23	150
8	4.5	24	31	247	59	312	103	110	232	179	23	149
9	4.2	21	33	204	57	310	103	324	261	178	23	149
10	4.2	19	34	171	55	309	103	329	271	177	23	149
11	4.2	16	38	150	52	308	104	333	216	177	109	149
12	4.2	13	41	138	50	306	103	341	178	177	163	148
13	4.2	22	38	135	49	305	104	431	165	176	162	148
14	4.2	44	36	135	48	300	104	558	156	176	162	147
15	4.2	53	36	134	48	298	105	594	148	175	161	148
16	4.7	48	36	121	48	297	103	643	243	174	161	147
17	5.2	56	36	93	48	296	110	631	297	174	160	146
18	5.1	37	36	86	49	295	111	563	295	173	159	146
19	5.1	21	36	81	49	295	116	539	294	172	159	147
20	5.2	20	36	81	43	294	115	545	293	172	159	146
21	5.3	22	36	82	38	293	118	538	299	172	158	145
22	5.3	25	36	83	37	292	117	536	313	171	158	145
23	5.3	25	36	98	37	292	137	534	311	170	157	145
24	5.5	25	36	120	37	289	238	533	310	96	157	145
25	5.4	25	36	130	37	287	298	397	309	25	157	145
26	5.2	25	38	144	37	288	357	240	308	25	155	145
27	5.4	25	39	126	37	288	465	180	306	25	155	144
28	5.4	25	37	110	37	288	513	183	305	118	155	145
29	5.4	26	43	99	---	288	507	249	303	176	154	145
30	5.5	26	51	89	---	289	502	450	301	176	153	145
31	5.6	---	54	82	---	288	---	560	---	176	153	---
TOTAL	155.3	695.4	1116	8616	1441	8306	5814	12742	9115	5784	4322	4424
MEAN	5.01	23.2	36.0	278	51.5	268	194	411	304	187	139	147
MAX	5.9	56	54	1700	79	315	513	643	910	328	175	152
MIN	4.2	5.3	27	78	37	37	103	28	148	25	23	144
AC-FT	308	1380	2210	17090	2860	16470	11530	25270	18080	11470	8570	8780

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	80.4	38.2	26.1	37.1	58.3	73.6	68.9	191	360	289	212	142
MAX	428	236	173	278	328	353	315	727	957	542	403	497
(WY)	1976	1977	1982	1997	1984	1984	1986	1996	1995	1995	1983	1980
MIN	4.35	3.90	3.75	4.76	4.78	5.07	9.21	17.0	36.4	21.7	11.4	4.84
(WY)	1978	1979	1979	1981	1977	1977	1977	1977	1976	1981	1987	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	74093.3		62530.7			
ANNUAL MEAN	202		171		132	
HIGHEST ANNUAL MEAN					288	1982
LOWEST ANNUAL MEAN					49.3	1981
HIGHEST DAILY MEAN	3750	May 17	1700	Jan 3	3750	May 17 1996
LOWEST DAILY MEAN	4.2	Oct 9	4.2	Oct 9	3.5	Jan 2 1979
ANNUAL SEVEN-DAY MINIMUM	4.2	Oct 9	4.2	Oct 9	3.5	Jan 2 1979
INSTANTANEOUS PEAK FLOW			2480	Jan 2	4660	Jul 9 1974
INSTANTANEOUS PEAK STAGE			6.18	Jan 2	7.90	Jul 9 1974
ANNUAL RUNOFF (AC-FT)	147000		124000		95690	
10 PERCENT EXCEEDS	521		336		410	
50 PERCENT EXCEEDS	107		145		31	
90 PERCENT EXCEEDS	5.8		5.8		6.7	

11414140 LAKE SPAULDING NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'35", long 120°38'32", in SE 1/4 NE 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near center of Spaulding Dam on South Yuba River and 2.5 mi northeast of Emigrant Gap.

DRAINAGE AREA.--118 mi^2.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1968, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by three concrete-arch dams with spillway on the middle arch. Storage began in 1913. Capacity, 74,773 acre-ft between gage heights 0.6 ft, bottom of outlet, and 205.0 ft, top of radial gates. Released water flows through Spaulding Powerplants Nos. 1 and 2 (stations 11414154 and 11414155). Flow through Powerplant No. 1 is transported out of Yuba River basin by Drum Canal to Bear River basin. See schematic diagrams of Yuba and Bear River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 75,100 acre-ft, July 13, 1967, gage height, 205.5 ft; minimum, 914 acre-ft, Feb. 28, 1976, gage height, 25.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 74,822 acre-ft, May 13, gage height, 205.07 ft; minimum, 13,609 acre-ft, Sept. 18, gage height, 82.84 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated Apr. 23, 1965)

20	566	70	9,632
25	874	100	19,541
30	1,352	150	41,545
40	2,742	200	71,329
50	4,578	206	75,473

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48308	34089	33995	72780	63573	63102	63899	73628	74599	68638	43233	23170
2	48380	34122	33340	68220	63560	63127	63662	73580	74411	68472	42644	22415
3	48580	34141	32544	65911	63407	63108	63624	73621	74106	68339	42054	21802
4	47980	33831	32112	65061	63350	63223	63618	73981	74502	68233	41462	21183
5	47362	33368	39232	64353	63274	63388	63643	74071	74543	68087	40839	20539
6	46802	32978	39625	63892	63236	63382	63611	74474	74134	67856	40154	19946
7	46212	32572	38900	63522	63216	63471	63579	74696	73856	67021	39257	19336
8	45648	32222	38405	63350	63197	63560	64142	74724	73483	65859	38375	18746
9	45054	32264	39196	63318	63172	63637	64026	74571	73338	64693	37492	18104
10	44465	32314	41965	63248	63166	63758	63873	74522	73041	63465	36649	17522
11	43884	32062	45783	63242	62937	63847	63771	74467	72484	62475	35844	16970
12	43264	31634	54571	63166	62981	63835	63803	74794	71834	61285	35215	16436
13	42696	31245	57349	63026	63032	63777	63962	74822	71221	60103	34633	15920
14	42075	30831	57688	62975	63134	63739	64379	74787	70626	58920	34033	15422
15	41473	30710	57306	62981	63223	63892	65171	74787	70014	57736	33410	14908
16	40865	30813	56739	62912	63305	64058	65586	74766	69605	56583	32802	14321
17	40240	33103	56097	62880	63426	64072	65950	74780	70075	55411	32190	13733
18	39666	36927	55358	62842	63376	63950	66850	74801	69686	54236	31593	13609
19	39080	37818	54548	62842	63337	64058	66949	74780	69706	53044	30993	14429
20	38489	38116	53761	62823	63293	64167	66608	74773	69679	51858	30416	15226
21	37888	37808	53061	62816	63242	64270	68206	74731	69619	50942	29835	15759
22	37335	39337	52296	62912	63216	64430	68200	74662	69558	50459	29238	15978
23	36781	39443	51514	62931	63191	64597	69505	74808	69438	49819	28642	16200
24	36294	39055	50646	62969	63134	64629	71458	74717	69385	49061	28031	16443
25	35950	38410	49729	64340	63026	64546	73331	74696	69298	48208	27442	16674
26	35829	37675	49712	64822	63077	64732	73649	74578	69204	47362	26822	16918
27	35767	36829	51382	64110	63166	64719	73580	74363	69091	46507	26234	17124
28	35445	35984	51268	63701	63140	64539	73476	74286	68971	45778	25631	17328
29	35105	35133	53259	63630	---	64334	73863	74300	68837	45038	25023	17568
30	34785	34198	59874	63471	---	64257	73573	74731	68724	44432	24406	17802
31	34325	---	67849	63426	---	64116	---	74662	---	43825	23789	---
MAX	48580	39443	67849	72780	63573	64732	73863	74822	74599	68638	43233	23170
MIN	34325	30710	32112	62816	62937	63102	63579	73580	68724	43825	23789	13609
a	135.42	135.15	194.80	187.98	187.53	189.06	203.27	204.84	196.12	154.35	111.15	95.18
b	-13922	-127	+33651	-4423	-286	+976	+9457	+1089	-5938	-24899	-20036	-5987
c	23850	22160	30290	1290	0	2960	28310	42350	38050	38180	30930	6970
d	3140	2400	8190	9030	0	0	7470	10880	9220	8800	8850	6620

CAL YR 1996 MAX 74787 MIN 30710 b +35960 c 393100 d 69570
WTR YR 1997 MAX 74822 MIN 13609 b -30445 c 265300 d 74600

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.
c Diversion, in acre-feet, to Spaulding No. 1 Powerplant, provided by Pacific Gas & Electric Co.
d Diversion, in acre-feet, to Spaulding No. 2 Powerplant, provided by Pacific Gas & Electric Co.

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'03", long 120°39'08", in SE 1/4 SW 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, 100 ft downstream from tunnel outlet, 1.0 mi downstream from Spaulding No. 1 Powerplant, and 1.7 mi northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year. Prior to October 1972, published as "Drum Canal at intake."

GAGE.--Water-stage recorder. Elevation of gage is 4,880 ft above sea level, from topographic map. Prior to Oct. 1, 1968, in powerplant 0.7 mi upstream at different datum.

REMARKS.--Canal diverts from Spaulding No. 1 Powerplant (station 11414154) at Lake Spaulding Dam. Most of the water from Drum Canal enters the Bear River via Drum No. 1 and 2 Powerplants (station 11414196) at Drum Afterbay. Some of the water is diverted out of Drum Forebay to Alta Powerplant (station 11421725). See schematic diagrams of Yuba and Bear River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 860 ft^3/s, May 17, 1986; no flow for several days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	357	760	328	2.6	14	196	819	844	588	675	651
2	.00	185	794	102	2.5	15	207	820	843	588	672	651
3	100	188	790	88	2.5	15	237	823	842	614	669	650
4	509	370	768	58	2.5	16	262	823	844	593	666	650
5	488	419	495	5.0	2.5	29	274	831	844	593	661	652
6	487	417	713	2.7	2.5	104	313	796	841	596	667	658
7	486	415	840	2.5	2.5	190	326	666	840	641	674	655
8	484	384	836	2.5	2.5	163	276	706	840	688	669	652
9	482	181	836	2.5	2.5	121	325	835	838	696	663	650
10	490	181	730	2.5	2.5	114	323	831	837	692	655	644
11	492	331	806	2.5	105	92	322	830	841	585	659	647
12	490	408	719	20	86	86	322	829	844	697	665	643
13	487	406	780	37	1.9	86	322	829	842	694	659	633
14	485	405	819	37	2.0	98	323	835	842	688	655	624
15	485	370	828	37	2.0	48	324	844	842	683	662	640
16	494	198	839	14	2.0	48	330	843	719	669	658	674
17	493	201	839	2.2	2.1	48	641	843	574	659	660	688
18	490	426	838	2.2	2.1	48	744	840	574	690	661	490
19	487	603	834	2.2	2.0	33	670	840	564	683	660	4.3
20	484	704	839	29	2.0	27	665	837	575	682	661	4.4
21	481	721	827	42	2.0	14	694	838	578	682	656	4.5
22	480	722	802	42	2.0	14	695	840	579	562	655	4.5
23	477	724	796	22	9.4	14	578	841	575	678	654	4.5
24	475	757	814	10	37	67	698	844	572	681	660	4.5
25	398	780	840	24	38	108	712	844	579	683	661	4.5
26	209	792	825	5.2	31	107	748	843	583	682	656	4.5
27	208	794	833	2.9	24	165	746	841	585	683	653	4.5
28	370	793	832	2.5	13	197	757	839	585	687	656	4.3
29	409	790	812	2.5	---	197	776	838	586	671	651	4.3
30	396	790	774	2.4	---	197	802	839	586	682	656	4.4
31	388	---	746	2.4	---	197	---	845	---	680	654	---
TOTAL	12704.00	14812	24604	934.7	388.6	2672	14608	25572	21438	20390	20483	11605.2
MEAN	410	494	794	30.2	13.9	86.2	487	825	715	658	661	387
MAX	509	794	840	328	105	197	802	845	844	697	675	688
MIN	.00	181	495	2.2	1.9	14	196	666	564	562	651	4.3
AC-FT	25200	29380	48800	1850	771	5300	28970	50720	42520	40440	40630	23020
a	25270	29880	47480	710	0	0	14550	32250	31670	32130	32440	18760
b	1150	930	1070	42	851	1070	1460	1550	1250	1580	1720	1850

a Discharge, in acre-feet, to Drum No. 1 and 2 Powerplants, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Alta Powerplant, provided by Pacific Gas & Electric Co.

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	413	428	458	447	468	508	597	636	625	607	569	367
MAX	817	824	835	837	833	838	839	842	844	820	804	661
(WY)	1983	1984	1984	1984	1984	1984	1996	1978	1978	1983	1983	1986
MIN	.000	29.5	31.1	30.2	.000	22.6	22.9	5.77	166	178	.000	.000
(WY)	1966	1987	1977	1997	1991	1988	1988	1976	1977	1977	1965	1965

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	239473.54		170211.50			
ANNUAL MEAN	654		466		511	
HIGHEST ANNUAL MEAN					796	1984
LOWEST ANNUAL MEAN					101	1977
HIGHEST DAILY MEAN	851	Feb 17	845	May 31	860	May 17 1986
LOWEST DAILY MEAN	.00	Sep 25	.00	Oct 1	.00	Jul 31 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 25	2.0	Feb 13	.00	Jul 31 1965
ANNUAL RUNOFF (AC-FT)	475000		337600		369900	
ANNUAL DISCHARGE (AC-FT) a	463700		265100			
ANNUAL DISCHARGE (AC-FT) b	11460		14510			
10 PERCENT EXCEEDS	841		837		825	
50 PERCENT EXCEEDS	774		585		564	
90 PERCENT EXCEEDS	304		3.7		29	

a Discharge, in acre-feet, to Drum No. 1 and 2 Powerplants, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Alta Powerplant, provided by Pacific Gas & Electric Co.

11414200 SOUTH YUBA CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°18'49", long 120°39'43", in SE 1/4 NE 1/4 sec.30, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank of concrete flume 400 ft downstream from Bowman Lake Road and 2.5 mi northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,590 ft above sea level, from topographic map.

REMARKS.--Canal diverts from Spaulding No. 2 Powerplant (station 11414155) at Lake Spaulding Dam. Downstream from the gage, some flow is diverted to Bear River. The remainder of the water enters Deer Creek at Deer Creek Powerplant (station 11414205). See schematic diagrams of Yuba and Bear River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 165 ft^3/s, Aug. 3, 1965; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	40	34	71	11	20	2.0	137	137	140	137	138
2	58	42	37	5.4	10	20	27	137	137	140	135	137
3	57	41	37	2.7	9.3	20	41	137	137	140	135	136
4	57	45	36	2.4	9.2	20	63	138	137	139	137	135
5	56	46	25	2.3	8.9	18	74	137	137	139	136	135
6	56	45	87	11	8.8	17	92	130	137	139	137	135
7	56	45	143	18	8.8	29	104	130	137	139	141	134
8	56	46	142	18	8.8	30	104	134	137	139	141	133
9	55	47	141	18	8.8	30	105	138	137	138	141	132
10	56	45	137	18	8.7	30	102	138	139	137	140	131
11	56	45	136	18	13	29	102	138	139	136	139	129
12	56	43	140	18	9.0	28	102	138	139	140	138	129
13	56	43	145	17	8.1	28	102	139	137	139	138	128
14	57	43	143	17	8.3	27	103	138	137	140	137	128
15	57	41	150	17	8.6	28	103	138	137	139	136	126
16	59	39	155	17	8.8	31	96	139	135	139	137	123
17	57	35	155	17	10	32	95	139	137	139	138	99
18	57	33	143	17	9.1	19	99	139	137	139	138	72
19	57	34	154	17	8.7	2.2	98	139	137	138	137	69
20	57	33	154	23	8.5	2.1	97	139	138	138	137	70
21	57	36	134	30	8.4	2.0	95	139	139	138	136	71
22	51	31	155	31	8.2	2.0	113	139	137	137	137	69
23	47	34	154	31	13	2.0	147	140	137	140	137	69
24	47	36	153	30	21	2.0	150	140	137	140	138	68
25	46	36	152	30	21	2.0	156	140	136	140	135	69
26	45	36	155	15	20	2.0	151	140	137	139	133	68
27	47	35	154	10	21	2.0	144	138	138	138	132	70
28	47	37	149	11	21	2.0	145	137	139	138	136	71
29	46	37	141	11	---	2.0	140	137	140	138	140	71
30	43	37	140	10	---	2.0	137	137	140	137	140	72
31	41	---	146	9.9	---	2.0	---	137	---	137	139	---
TOTAL	1652	1186	3927	563.7	318.0	482.3	3089.0	4266	4125	4299	4258	3117
MEAN	53.3	39.5	127	18.2	11.4	15.6	103	138	138	139	137	104
MAX	59	47	155	71	21	32	156	140	140	140	141	138
MIN	41	31	25	2.3	8.1	2.0	2.0	130	135	136	132	68
AC-FT	3280	2350	7790	1120	631	957	6130	8460	8180	8530	8450	6180
a	2920	2080	2730	93	0	0	4660	5620	4640	3740	3610	3440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

MEAN	79.6	67.9	71.3	75.1	78.3	80.4	74.7	108	110	96.9	93.3	89.8
MAX	158	157	157	155	151	147	146	156	163	160	155	152
(WY)	1966	1966	1966	1984	1984	1980	1967	1980	1965	1965	1965	1965
MIN	35.9	14.7	33.4	18.2	11.4	15.6	11.3	27.2	46.9	46.1	41.7	38.0
(WY)	1978	1995	1978	1997	1997	1997	1979	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	34509.3		31283.0			
ANNUAL MEAN	94.3		85.7		85.5	
HIGHEST ANNUAL MEAN					124	1967
LOWEST ANNUAL MEAN					47.2	1977
HIGHEST DAILY MEAN	155	Dec 16	156	Apr 25	165	Aug 3 1965
LOWEST DAILY MEAN	2.8	Apr 3	2.0	Mar 21		
ANNUAL SEVEN-DAY MINIMUM	34	Jan 29	2.0	Mar 21	.00	Apr 5 1986
ANNUAL RUNOFF (AC-FT)	68450		62050		61910	
ANNUAL DISCHARGE (AC-FT) a	40760		33520			
10 PERCENT EXCEEDS	152		140		142	
50 PERCENT EXCEEDS	69		99		79	
90 PERCENT EXCEEDS	39		9.7		39	

a Discharge, in acre-feet, to Deer Creek Powerplant, provided by Pacific Gas & Electric Co.

11414210 SOUTH YUBA RIVER BELOW SPAULDING NO. 2 POWERPLANT, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'28", long 120°38'42", in NE 1/4 SE 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank 200 ft downstream from Spaulding No. 2 Powerplant, 0.2 mi downstream from Spaulding Dam, and 2.3 mi northeast of Emigrant Gap.

DRAINAGE AREA.--118 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1965-85 in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir and steel-lipped rectangular weir. Elevation of gage is 4,670 ft above sea level, from topographic map. Prior to June 1988, at same site and different datum.

REMARKS.--Flow regulated by Lake Spaulding (station 11414140) 0.2 mi upstream. Water is released at the intake to South Yuba Canal (station 11414200) 100 ft upstream. See schematic diagrams of Yuba and Bear River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 194 ft^3/s, Apr. 14, June 8, 1986, gage height, 3.37 ft, from rating curve extended above 45 ft^3/s, on basis of weir formula; minimum daily, 0.09 ft^3/s, Nov. 5-7, 1985.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	3.9	2.5	26	7.8	6.5	6.2	40	42	3.0	7.9	9.2
2	6.6	3.6	2.0	24	7.2	6.6	6.1	40	42	3.0	7.9	9.0
3	4.5	3.6	1.9	17	6.9	6.4	6.2	40	42	4.0	7.9	8.8
4	4.0	3.6	2.7	8.8	6.8	6.3	6.2	40	42	5.9	7.9	8.8
5	4.0	3.6	6.4	9.1	6.7	6.5	6.2	40	42	5.9	21	8.8
6	4.0	3.6	11	13	6.5	6.3	6.2	26	42	5.9	23	8.8
7	4.0	3.6	22	15	6.4	6.2	6.2	23	17	5.9	8.2	8.8
8	4.0	3.6	22	11	6.5	6.2	97	37	3.0	3.8	6.8	8.8
9	4.0	3.6	25	6.1	6.4	6.2	85	40	16	2.1	6.8	8.8
10	4.0	3.6	33	6.1	6.3	6.2	141	40	41	3.5	6.8	8.8
11	4.0	3.6	33	6.1	6.5	6.2	136	39	40	5.6	7.1	8.8
12	4.0	3.6	31	6.2	6.5	6.2	136	39	24	5.6	7.6	8.6
13	4.0	3.6	34	7.6	6.3	6.2	136	39	2.5	5.6	7.6	8.3
14	4.0	3.6	32	8.7	6.4	6.2	138	39	2.5	5.6	7.6	8.4
15	4.0	3.6	27	8.7	6.5	6.2	138	39	2.5	5.7	7.6	8.8
16	4.0	3.6	23	8.8	6.5	6.7	112	39	2.4	5.9	7.6	8.8
17	4.0	5.9	22	8.2	7.2	7.3	28	39	2.3	6.3	7.4	9.2
18	4.0	3.1	21	7.3	6.8	6.5	26	39	2.3	6.8	7.2	9.7
19	4.0	2.8	22	6.5	6.8	6.5	31	39	2.3	6.8	7.2	9.7
20	4.0	1.8	21	7.7	6.8	6.5	31	39	2.3	6.8	7.2	9.7
21	3.9	2.5	18	9.4	6.5	6.5	31	39	2.3	6.8	7.2	9.7
22	3.9	3.8	20	9.3	6.5	6.5	29	39	2.3	7.2	7.2	7.6
23	4.0	2.1	20	9.2	6.5	6.4	32	39	2.3	7.6	8.0	6.5
24	4.1	1.9	19	9.2	6.2	6.2	32	39	2.3	7.6	9.0	6.5
25	4.2	1.8	19	7.4	6.2	6.2	32	39	2.8	7.6	9.2	6.5
26	3.8	1.8	24	5.6	6.2	6.2	35	39	3.9	7.6	9.2	6.4
27	3.6	1.8	21	2.1	6.3	6.2	40	21	4.8	7.6	9.2	6.2
28	3.6	1.8	25	2.6	6.5	6.2	40	2.8	3.5	7.6	9.2	6.2
29	3.8	1.8	30	2.0	---	6.2	40	2.8	3.0	7.6	9.2	6.2
30	4.0	1.8	30	5.0	---	6.2	40	4.6	3.0	7.6	9.2	6.2
31	4.0	---	37	7.2	---	6.2	---	42	---	7.7	9.2	---
TOTAL	127.3	92.6	657.5	280.9	184.7	196.9	1629.3	1063.2	442.3	186.2	274.1	246.6
MEAN	4.11	3.09	21.2	9.06	6.60	6.35	54.3	34.3	14.7	6.01	8.84	8.22
MAX	6.6	5.9	37	26	7.8	7.3	141	42	42	7.7	23	9.7
MIN	3.6	1.8	1.9	2.0	6.2	6.2	6.1	2.8	2.3	2.1	6.8	6.2
AC-FT	252	184	1300	557	366	391	3230	2110	877	369	544	489

11414210 SOUTH YUBA RIVER BELOW SPAULDING NO. 2 POWERPLANT, NEAR EMIGRANT GAP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.04	3.93	4.68	4.51	11.4	18.5	26.1	24.2	23.3	5.28	4.59	4.45
MAX	5.85	6.23	21.2	17.7	61.4	111	118	85.8	111	20.7	8.84	8.22
(WY)	1993	1995	1997	1995	1986	1986	1986	1986	1986	1995	1997	1997
MIN	1.50	1.52	1.72	1.70	2.13	1.95	2.05	1.75	1.71	1.71	1.55	1.58
(WY)	1986	1986	1987	1989	1989	1988	1987	1987	1987	1986	1986	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1986 - 1997	
ANNUAL TOTAL	5426.1		5381.6			
ANNUAL MEAN	14.8		14.7		11.2	
HIGHEST ANNUAL MEAN					41.3	1986
LOWEST ANNUAL MEAN					2.05	1988
HIGHEST DAILY MEAN	38	Apr 11	141	Apr 10	166	Jun 14 1986
LOWEST DAILY MEAN	1.0	Jan 1	1.8	Nov 20	.09	Nov 5 1985
ANNUAL SEVEN-DAY MINIMUM	1.6	Jan 1	1.8	Nov 24	.64	Nov 4 1985
INSTANTANEOUS PEAK FLOW			171	Apr 8	194	Apr 14 1986
INSTANTANEOUS PEAK STAGE			2.89	Apr 8	3.37	Apr 14 1986
ANNUAL RUNOFF (AC-FT)	10760		10670		8120	
10 PERCENT EXCEEDS	33		39		32	
50 PERCENT EXCEEDS	5.0		6.8		4.3	
90 PERCENT EXCEEDS	2.1		3.0		1.7	

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'07", long 120°39'24", in SW 1/4 SW 1/4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank 50 ft downstream from road bridge, 0.8 mi downstream from Spaulding Nos. 1 and 2 Powerplants, and 1.6 mi northeast of Emigrant Gap.

DRAINAGE AREA.--120 mi^2.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft above sea level (levels by Pacific Gas & Electric Co.).

REMARKS.--Flow regulated by Lake Spaulding (station 11414140) 0.8 mi upstream. Lake Spaulding receives water from Canyon Creek via the Bowman-Spaulding Canal (station 11416100). Most of the water is diverted out of the Yuba River just downstream from Spaulding Dam via Drum Canal (station 11414170) and South Yuba Canal (station 11414200). See schematic diagrams of Yuba and Bear River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 34,200 ft^3/s, Jan. 1, 1997, gage height, 23.60 ft, from rating curve extended above 8,800 ft^3/s on basis of spillway rating at Spaulding Dam; minimum daily, 2.1 ft^3/s, on several days during July and September 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	6.3	e16	e25400	e679	e446	e868	e404	e159	e5.5	6.6	7.8
2	9.2	e6.2	12	e22100	e707	e452	e754	e727	e138	e4.8	6.7	7.8
3	6.6	e6.1	10	e6370	e746	e453	e507	e581	e236	e5.3	6.7	7.7
4	6.0	e6.0	13	e2520	e945	e480	e455	e894	e918	e6.9	6.6	7.5
5	5.8	e6.0	101	e1700	e887	e873	e447	e669	e422	e7.1	17	7.5
6	5.8	e6.0	49	e1150	e568	e911	e439	e317	e149	e8.2	20	7.5
7	5.7	e6.0	45	e875	e501	e695	e427	e219	e20	e16	7.2	7.4
8	5.7	e5.9	41	e762	e492	e710	e400	e172	e8.2	e27	5.9	7.3
9	5.7	e5.9	61	e685	e474	e750	e339	e574	e13	e27	5.9	7.3
10	5.7	e5.9	157	e671	e447	e806	e394	e537	e63	e26	5.9	7.3
11	5.7	e5.9	145	e674	e449	e859	e409	e416	e44	e23	6.0	7.3
12	5.7	e5.9	146	e623	e380	e843	e410	e638	e28	e21	6.4	7.3
13	5.8	e5.9	101	e530	e419	e816	e422	e654	e9.6	e19	6.4	7.4
14	5.7	e5.9	65	e499	e455	e831	e443	e626	e6.3	e18	6.4	7.5
15	5.7	e5.9	49	e480	e495	e862	e358	e690	e5.4	e9.5	6.3	7.7
16	5.7	e5.9	39	e476	e539	e964	e315	e659	e5.6	e6.8	6.2	7.4
17	5.7	e35	36	e491	e595	e1000	e563	e589	e5.3	e6.1	6.2	7.8
18	6.1	e43	33	e473	e620	e986	e714	e602	e5.1	e6.9	6.1	9.2
19	5.9	e15	33	e476	e601	e1040	e2140	e433	e4.6	e6.9	6.1	9.5
20	5.9	e20	32	e465	e547	e1140	e1430	e452	e5.1	e7.0	6.7	9.5
21	5.8	e12	30	e476	e499	e1170	e1300	e253	e4.6	e6.9	6.2	9.7
22	5.8	e45	30	e488	e463	e1240	e1210	e150	e4.6	e7.4	6.1	12
23	5.8	e21	29	e524	e437	e1370	e1270	e259	e4.7	e7.8	6.9	8.1
24	6.9	e14	29	e738	e417	e1510	e541	e191	e4.7	e7.7	8.3	6.5
25	6.4	e12	29	e1020	e407	e1410	e167	e181	e4.8	e7.8	8.4	6.2
26	6.0	e9.2	84	e1500	e399	e1350	e119	e87	e6.1	e7.8	8.3	5.9
27	5.9	e8.2	122	e1220	e409	e1600	e173	e50	e6.3	e7.9	8.3	5.8
28	5.9	e7.7	89	e887	e456	e1420	e481	e12	e6.1	e7.0	8.3	11
29	7.1	e7.1	147	e752	---	e1250	e366	e7.2	e5.7	e6.8	8.3	15
30	7.4	e6.8	210	e713	---	e1090	e701	e43	e5.9	e6.6	8.1	9.6
31	6.7	---	4940	e678	---	e982	---	e555	---	e6.8	7.8	---
TOTAL	191.1	351.7	6923	76416	15033	30309	18562	12641.2	2298.7	338.5	236.3	245.5
MEAN	6.16	11.7	223	2465	537	978	619	408	76.6	10.9	7.62	8.18
MAX	9.2	45	4940	25400	945	1600	2140	894	918	27	20	15
MIN	5.7	5.9	10	465	380	446	119	7.2	4.6	4.8	5.9	5.8
AC-FT	379	698	13730	151600	29820	60120	36820	25070	4560	671	469	487

e Estimated.

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.12	44.4	52.1	129	99.7	95.2	91.2	331	408	68.1	6.14	6.38
MAX	18.8	683	685	2465	1626	1304	620	1734	2613	822	9.44	10.3
(WY)	1972	1984	1982	1997	1986	1986	1982	1996	1983	1983	1971	1986
MIN	2.68	4.51	5.44	4.51	5.58	5.10	3.41	5.29	3.05	2.34	2.43	2.73
(WY)	1978	1978	1977	1976	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	79100.6		163546.0			
ANNUAL MEAN	216		448		115	
HIGHEST ANNUAL MEAN					448	1997
LOWEST ANNUAL MEAN					4.35	1977
HIGHEST DAILY MEAN	15900	May 16	25400	Jan 1	25400	Jan 1 1997
LOWEST DAILY MEAN	5.3	Jul 18	4.6	Jun 19	2.1	Jul 15 1977
ANNUAL SEVEN-DAY MINIMUM	5.4	Jul 22	4.7	Jun 19	2.1	Sep 22 1977
INSTANTANEOUS PEAK FLOW			34200	Jan 1	34200	Jan 1 1997
INSTANTANEOUS PEAK STAGE			23.60	Jan 1	23.60	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	156900		324400		83010	
10 PERCENT EXCEEDS	494		887		90	
50 PERCENT EXCEEDS	17		30		7.5	
90 PERCENT EXCEEDS	5.8		5.9		5.3	

11414360 LAKE CREEK BELOW CARR LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°23'57", long 120°38'31", in SE 1/4 NE 1/4 sec.29, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 65 ft downstream from Carr Lake, 2.0 mi upstream from Fall Creek, and 5.8 mi southeast of Graniteville.

DRAINAGE AREA.--0.48 mi^2.

PERIOD OF RECORD.--October 1995 to current year. Unpublished records for water years 1965-95 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and compound rectangular weir. Elevation of gage is 6,650 ft above sea level (levels by Pacific Gas & Electric Co). August 1965 to November 1975, nonrecording gage at site 65 ft upstream at different datum. November 1975 to July 1984, nonrecording gage at same site but different datum. July 1984 to September 1995, nonrecording gage at same site and datum.

REMARKS.--Records not computed for winter months. Flow regulated by Carr Lake. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	5.6	---	---	---	---	---	---	2.0	e.60	e.74	.78
2	2.9	5.2	---	---	---	---	---	---	1.9	e.60	e.74	1.1
3	2.9	5.2	---	---	---	---	---	---	1.9	e.60	e.74	1.1
4	2.9	5.2	---	---	---	---	---	---	3.9	e.67	.75	1.1
5	3.0	5.1	---	---	---	---	---	---	3.4	e.67	.70	.81
6	3.1	5.0	---	---	---	---	---	---	2.2	e.67	.67	.57
7	4.5	5.0	---	---	---	---	---	---	1.5	e.67	.67	.54
8	5.2	5.0	---	---	---	---	---	---	1.5	e.74	.65	.54
9	4.6	5.0	---	---	---	---	---	---	1.5	e.74	.75	1.9
10	4.2	5.0	---	---	---	---	---	---	1.5	e.82	.69	2.9
11	3.9	4.8	---	---	---	---	---	---	1.5	e.82	.61	2.9
12	3.7	4.8	---	---	---	---	---	---	1.4	e.82	.80	2.9
13	3.4	4.8	---	---	---	---	---	---	1.9	e.91	.99	2.7
14	3.1	4.8	---	---	---	---	---	---	1.3	e.99	.99	2.6
15	2.6	4.6	---	---	---	---	---	---	1.2	e.75	1.0	2.6
16	2.3	4.5	---	---	---	---	---	---	1.1	e.60	1.1	2.6
17	3.6	4.3	---	---	---	---	---	---	.80	e.54	1.1	2.7
18	3.1	4.3	---	---	---	---	---	4.0	.81	e.48	1.1	2.8
19	2.4	4.2	---	---	---	---	---	5.7	.97	e.54	.80	1.9
20	2.3	4.1	---	---	---	---	---	4.2	.97	e.60	.40	.92
21	2.4	4.1	---	---	---	---	---	3.1	.71	e.67	.41	.88
22	1.9	4.1	---	---	---	---	---	2.5	.42	e.74	.51	.82
23	.43	3.9	---	---	---	---	---	3.5	.44	e.74	.67	.67
24	.23	3.8	---	---	---	---	---	4.6	.44	e.74	.67	.64
25	.26	3.6	---	---	---	---	---	3.9	.39	e.67	.67	.55
26	.32	3.1	---	---	---	---	---	3.0	.33	e.60	.62	.48
27	.34	---	---	---	---	---	---	2.5	.32	e.54	.60	.40
28	1.3	---	---	---	---	---	---	2.2	.29	e.48	.60	.32
29	2.0	---	---	---	---	---	---	2.1	.24	e.42	.67	.32
30	2.0	---	---	---	---	---	---	2.1	e.42	e.56	.74	.32
31	3.4	---	---	---	---	---	---	2.0	---	e.74	.51	---
TOTAL	80.58	---	---	---	---	---	---	---	37.25	20.73	22.66	41.36
MEAN	2.60	---	---	---	---	---	---	---	1.24	.67	.73	1.38
MAX	5.2	---	---	---	---	---	---	---	3.9	.99	1.1	2.9
MIN	.23	---	---	---	---	---	---	---	.24	.42	.40	.32
AC-FT	160	---	---	---	---	---	---	---	74	41	45	82

e Estimated.

11414400 FRENCH LAKE NEAR CISCO, CA

LOCATION.--Lat 39°25'16", long 120°32'28", in SE 1/4 SW 1/4 sec.17, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank near French Lake Dam on Canyon Creek, 0.5 mi upstream from Weil Lake, and 8.2 mi north of Cisco.

DRAINAGE AREA.--4.60 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1966-86 available in the files of the U.S. Geological Survey.

GAGE.--Staff gages, observed approximately weekly except during the winter months. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed on natural lake by rock-filled dam completed in 1859. Usable capacity, 13,940 acre-ft between elevations 6,594.90 ft, invert of outlet gate, and 6,660.28 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

6,610	1,805	6,640	8,006
6,620	3,636	6,650	10,701
6,630	5,677	6,662	14,542

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11182	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	12586
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	14156	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	2938	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	9834	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	6671	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	10719	---	---	---	---	---	---	---	---	10516
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	13998	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	7958	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	13875	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	9324
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	6762	---	---	---	---	---	---	---	---	13283	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11414410 CANYON CREEK BELOW FRENCH LAKE, NEAR CISCO, CA

LOCATION.--Lat 39°25'16", long 120°32'30", in SE 1/4 SW 1/4 sec.17, T.18 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 10 ft downstream from outlet at French Lake Dam on Canyon Creek, 0.5 mi upstream from Weil Lake, and 8.2 mi north of Cisco.

DRAINAGE AREA.--4.60 mi^2.

PERIOD OF RECORD.--January 1989 to current year (low flow records only). Unpublished records for water years 1967-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,590 ft above sea level, from topographic map. Prior to January 1989, nonrecording gages at three sites and datums.

REMARKS.--No records computed above 3.2 ft^3/s. Flow regulated by French Lake (station 11414400). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	e2.9	2.7	2.7	2.9	3.0	3.0	3.2	---	---	---	---
2	---	e2.9	2.6	2.7	2.8	3.0	3.0	---	---	---	---	---
3	---	e2.9	2.7	2.7	2.7	3.0	3.2	---	---	---	---	---
4	---	e2.9	2.7	2.7	2.8	3.0	3.2	---	---	---	---	---
5	---	e2.9	2.7	2.7	2.9	3.0	3.2	---	---	---	---	---
6	---	e2.9	2.7	2.7	3.0	3.1	3.1	---	---	---	---	---
7	---	e2.9	2.7	2.7	3.0	3.1	3.2	---	---	---	---	---
8	---	e2.9	2.7	2.7	3.0	3.1	3.2	---	---	---	---	---
9	---	e2.9	2.7	2.8	3.0	3.2	3.2	---	---	---	---	---
10	---	e2.9	2.6	2.8	3.0	3.2	3.2	---	---	---	---	---
11	---	e2.9	2.7	2.8	3.0	3.2	3.2	---	---	---	---	---
12	---	e2.9	2.7	2.7	3.1	3.2	3.2	---	---	---	---	---
13	---	e2.9	2.7	2.5	3.1	3.1	3.2	---	---	---	---	---
14	---	2.9	2.7	2.5	3.2	3.2	---	---	---	---	---	2.7
15	---	2.8	2.8	2.7	3.2	3.2	---	---	---	---	---	2.8
16	---	2.7	2.8	2.7	3.2	3.1	---	---	---	---	---	---
17	---	2.8	2.7	2.7	3.2	3.2	---	---	---	---	---	2.9
18	---	2.9	2.7	2.7	3.1	3.2	---	---	---	---	---	2.4
19	---	2.9	2.7	2.8	3.1	3.2	---	---	---	---	---	---
20	---	2.9	2.6	2.7	3.1	3.2	---	---	---	---	---	---
21	---	2.9	2.4	2.7	3.0	3.2	---	---	---	---	---	---
22	---	2.9	2.5	2.8	3.1	3.2	3.2	---	---	---	---	---
23	---	2.8	2.5	2.8	3.0	3.2	3.2	---	---	---	---	---
24	---	2.8	2.6	2.7	3.0	---	3.2	---	---	---	---	---
25	---	2.8	2.6	2.7	3.1	---	---	---	---	---	---	2.3
26	---	2.8	2.9	2.8	3.1	---	---	---	---	---	---	---
27	---	2.8	2.7	2.8	3.1	---	---	---	---	---	---	---
28	---	2.8	2.7	2.8	3.0	---	---	---	---	---	---	---
29	---	2.7	2.7	2.8	---	3.2	---	---	---	---	---	---
30	---	2.7	2.7	2.8	---	3.2	3.2	---	---	---	---	---
31	e2.9	---	2.7	2.8	---	3.1	---	---	---	---	---	---
TOTAL	---	85.6	82.9	84.5	84.8	---	---	---	---	---	---	---
MEAN	---	2.85	2.67	2.73	3.03	---	---	---	---	---	---	---
MAX	---	2.9	2.9	2.8	3.2	---	---	---	---	---	---	---
MIN	---	2.7	2.4	2.5	2.7	---	---	---	---	---	---	---
AC-FT	---	170	164	168	168	---	---	---	---	---	---	---

e Estimated.

11414440 FAUCHERIE LAKE NEAR CISCO, CA

LOCATION.--Lat 39°25'45", long 120°34'04", in SE 1/4 NE 1/4 sec.13, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, near right bank end of Faucherie Dam on Canyon Creek, 8.5 mi north of Cisco.

DRAINAGE AREA.--8.97 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1965-86 available in files of the U.S. Geological Survey.

GAGE.--Staff gages, observed approximately weekly during the summer months. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed on natural lake by earth-filled dam initially constructed prior to 1880 and enlarged in 1964. Usable capacity, 3,740 acre-ft between elevations 6,090.00 ft, invert of outlet gate, and 6,123.00 ft, crest of spillway. Dead storage, below elevation 6,090 ft, 240 acre-ft. Figures given represent total contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

6,090	240	6,110	2,216
6,095	628	6,115	2,854
6,100	1,095	6,120	3,540
6,105	1,629	6,125	4,280

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	3988	---	---
2	---	---	---	---	---	---	---	---	---	---	---	3719
3	4025	---	2427	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	3274	3068	---	---	---	---	---	4040	---	3986	---
6	---	---	---	---	---	---	---	4040	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	4010	---	---	---
11	---	---	---	---	---	---	---	---	---	---	3920	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	3998	---	---
16	3980	---	---	---	---	---	---	---	---	---	---	4013
17	---	---	---	---	---	---	---	---	---	---	---	4016
18	---	---	3992	---	---	---	---	---	3998	---	3849	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	3308	3988	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	3995	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	3980	---	---	---	---	---	---	---	3986	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	3780	---
27	---	2987	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	4016
30	---	---	---	---	---	---	---	---	---	3988	---	---
31	3980	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11414450 CANYON CREEK BELOW FAUCHERIE LAKE, NEAR CISCO, CA

LOCATION.--Lat 39°25'46", long 120°34'06", in SE 1/4 NE 1/4 sec.13, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 80 ft downstream from Faucherie Dam on Canyon Creek, 8.5 mi north of Cisco.

DRAINAGE AREA.--8.97 mi^2.

PERIOD OF RECORD.--January 1989 to current year (low flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,080 ft above sea level, from topographic map. October 1964 to July 1988, nonrecording gage at site 10 ft downstream at different datum. July 1988 to January 1989, nonrecording gage at same site and datum.

REMARKS.--No records computed above 3.2 ft^3/s. Flow regulated by Faucherie Lake (station 11414440). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	---	---	---	3.0	e3.0	e3.0	e2.9	e2.9	3.0	3.0	---
2	3.0	---	---	3.1	3.0	e3.0	e3.0	e2.9	e2.9	3.0	3.0	---
3	3.0	---	---	3.1	3.0	e3.0	e3.0	e2.9	e2.9	3.0	3.0	---
4	3.0	---	---	3.1	3.0	e3.0	e3.0	e2.9	e2.9	3.0	3.0	---
5	3.0	---	---	3.1	e3.0	e3.0	e3.0	e2.9	e2.9	3.0	3.0	---
6	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
7	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
8	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
9	3.0	---	3.1	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
10	3.0	---	3.1	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
11	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
12	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
13	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
14	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	3.0	---
15	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
16	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
17	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
18	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
19	3.0	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
20	3.0	---	3.2	3.1	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
21	3.1	---	3.2	3.1	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
22	3.1	---	3.2	3.1	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
23	3.1	---	3.2	3.1	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
24	3.1	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
25	3.1	---	3.2	3.1	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
26	3.1	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
27	3.1	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
28	3.1	---	3.2	3.0	e3.0	e3.0	e3.0	e2.9	3.0	3.0	---	---
29	3.1	---	3.2	3.0	---	e3.0	e3.0	e2.9	3.0	3.0	---	---
30	3.1	---	3.2	3.0	---	e3.0	e3.0	e2.9	3.0	3.0	---	---
31	---	---	3.2	3.0	---	e3.0	---	e2.9	---	3.0	---	---
TOTAL	---	---	---	---	84.0	93.0	90.0	89.9	89.5	93.0	---	---
MEAN	---	---	---	---	3.00	3.00	3.00	2.90	2.98	3.00	---	---
MAX	---	---	---	---	3.0	3.0	3.0	2.9	3.0	3.0	---	---
MIN	---	---	---	---	3.0	3.0	3.0	2.9	2.9	3.0	---	---
AC-FT	---	---	---	---	167	184	179	178	178	184	---	---

e Estimated.

11414465 SAWMILL LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°26'44", long 120°36'02", in NW 1/4 NW 1/4 sec.11, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, near right bank end of Sawmill Lake Dam on Canyon Creek, 0.8 mi upstream from Bowman Lake, and 7.2 mi east of Graniteville.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1966-86 available in files of the U.S. Geological Survey.

GAGE.--Staff gages, observed approximately weekly during the summer months. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by a rock-filled dam initially constructed prior to 1880 and enlarged in 1941. Usable capacity, 3,030 acre-ft between elevations 5,805 ft, base of dam, and 5,860 ft, crest of spillway. Figures given represent usable contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

5,805	0	5,850	2,000
5,820	110	5,860	3,030
5,830	430	5,863	3,375
5,840	1,130		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	3065	---	---
2	1652	---	---	---	---	---	---	---	---	---	---	3059
3	---	---	3030	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	3076	---	---	---	3105	---	3059	---
6	---	---	---	---	---	---	---	3134	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	3088
8	2721	---	---	---	---	---	---	---	---	---	---	---
9	2845	---	---	---	---	---	---	---	3094	---	---	---
10	---	---	---	---	---	---	---	---	3088	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	3059	---
13	---	---	---	---	---	---	---	3116	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	3065	---	---
16	3111	---	---	---	---	---	---	---	---	---	---	3088
17	---	---	---	---	---	---	---	---	---	---	---	3076
18	---	---	3076	---	---	---	---	---	3086	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	3088	---	---	---	---	---	3088	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	3059	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	3030	---	---	---	---	---	---	---	3065	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	3065	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	2888	---	3082
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11414470 CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°26'44", long 120°36'05", in NW 1/4 NW 1/4 sec.11, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 130 ft downstream from outlet at Sawmill Lake Dam on Canyon Creek, 0.8 mi upstream from Bowman Lake, and 7.2 mi east of Graniteville.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--October 1989 to current year. Unpublished records for water years 1965-89 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir in concrete control. Elevation of gage is 5,790 ft above sea level, from topographic map. September 1964 to July 6, 1988, nonrecording gage at two sites 470 ft downstream at different datum. July 7, 1988, to January 1989, nonrecording gage at same site and datum.

REMARKS.--Flow completely regulated by Sawmill Lake (station 11414465). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128 ft^3/s, Mar. 8-11, 1993, gage height, 2.02 ft; minimum daily, 2.5 ft^3/s, Oct. 7, 1989, May 12, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.8	4.1	2.9	3.6
2	3.8	3.2	3.4	e3.0	e3.0	e3.0	3.0	2.9	4.8	4.0	2.9	3.6
3	3.6	3.2	3.4	e3.0	e3.0	e3.0	3.0	2.9	4.8	4.0	2.9	3.7
4	3.5	3.2	3.4	e3.0	e3.0	e3.0	3.0	2.9	4.8	4.0	2.9	3.7
5	3.7	3.2	3.5	e3.0	e3.0	e3.0	3.0	2.9	4.8	4.0	2.9	3.7
6	3.5	3.2	3.3	e3.0	e3.0	e3.0	3.0	2.9	4.8	3.9	3.0	3.6
7	3.5	3.2	3.2	e3.0	e3.0	e3.0	3.0	2.9	5.0	3.8	3.0	3.5
8	3.6	3.3	3.2	e3.0	e3.0	e3.0	3.0	2.8	5.2	3.8	3.1	3.5
9	3.6	3.3	3.2	e3.0	e3.0	3.0	3.0	2.7	5.6	3.7	3.2	3.5
10	3.8	3.2	3.2	e3.0	e3.0	3.0	3.0	2.7	5.6	3.7	3.6	3.5
11	3.8	3.3	3.3	e3.0	e3.0	3.0	3.0	2.6	5.6	3.7	3.7	3.5
12	3.8	3.3	3.3	e3.0	e3.0	3.0	3.0	2.5	5.6	3.7	3.8	3.5
13	3.8	3.3	3.2	e3.0	e3.0	3.0	3.0	3.2	5.6	3.7	3.7	3.5
14	3.8	3.3	3.1	e3.0	e3.0	3.0	3.0	7.1	6.1	3.6	3.6	3.5
15	3.8	3.4	3.0	e3.0	e3.0	3.0	3.0	7.7	6.0	3.6	3.5	3.5
16	3.5	3.4	3.0	e3.0	e3.0	3.0	3.0	7.2	5.6	3.6	3.3	3.5
17	3.4	3.4	3.0	e3.0	e3.0	3.0	3.0	6.8	5.6	3.5	3.2	3.5
18	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.0	6.4	5.6	3.5	3.1	3.5
19	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.1	6.0	5.2	3.4	3.1	3.4
20	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.1	5.0	4.9	3.3	3.1	3.4
21	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.1	4.6	4.7	3.3	3.1	3.4
22	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.6	4.6	3.2	3.1	3.3
23	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.6	4.5	3.3	3.1	3.1
24	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.6	4.2	3.2	3.2	2.8
25	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.6	4.1	3.2	3.2	2.9
26	3.3	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.6	4.1	3.2	3.2	2.9
27	3.2	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.6	4.1	3.1	3.3	2.8
28	3.2	3.4	e3.0	e3.0	e3.0	3.0	3.0	4.7	4.2	3.0	3.6	2.8
29	3.3	3.4	e3.0	e3.0	---	3.0	3.0	4.8	4.2	3.0	3.6	2.8
30	3.3	3.2	e3.0	e3.0	---	3.0	3.0	4.8	4.2	3.0	3.6	2.8
31	3.3	---	e3.0	e3.0	---	3.0	---	4.8	---	3.0	3.6	---
TOTAL	108.8	99.7	97.1	93.0	84.0	93.0	90.3	134.4	148.9	109.1	101.1	100.3
MEAN	3.51	3.32	3.13	3.00	3.00	3.00	3.01	4.34	4.96	3.52	3.26	3.34
MAX	4.3	3.4	3.5	3.0	3.0	3.0	3.1	7.7	6.1	4.1	3.8	3.7
MIN	3.2	3.2	3.0	3.0	3.0	3.0	3.0	2.5	4.1	3.0	2.9	2.8
AC-FT	216	198	193	184	167	184	179	267	295	216	201	199

e Estimated.

11414470 CANYON CREEK BELOW SAWMILL LAKE, NEAR GRANITEVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.87	12.3	15.0	12.2	7.38	16.2	16.0	13.9	4.99	4.44	12.2	15.0
MAX	33.6	37.1	61.4	56.7	17.6	95.1	96.0	88.6	7.62	6.50	45.3	51.2
(WY)	1992	1991	1990	1990	1990	1993	1993	1993	1993	1993	1996	1992
MIN	3.26	3.14	3.13	3.00	3.00	3.00	3.01	2.68	3.17	3.10	3.26	3.34
(WY)	1996	1993	1997	1997	1997	1997	1997	1989	1996	1990	1997	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	3007.3		1259.7			
ANNUAL MEAN	8.22		3.45		11.7	
HIGHEST ANNUAL MEAN					28.8	1993
LOWEST ANNUAL MEAN					3.45	1997
HIGHEST DAILY MEAN	61	Aug 21	7.7	May 15	128	Mar 8 1993
LOWEST DAILY MEAN	2.9	Jun 27	2.5	May 12	2.5	Oct 7 1989
ANNUAL SEVEN-DAY MINIMUM	2.9	Jun 27	2.7	May 6	2.6	Apr 23 1989
INSTANTANEOUS PEAK FLOW			8.2	May 14	128	Mar 8 1993
INSTANTANEOUS PEAK STAGE			1.25	May 14	2.02	Mar 8 1993
ANNUAL RUNOFF (AC-FT)	5960		2500		8470	
10 PERCENT EXCEEDS	23		4.6		30	
50 PERCENT EXCEEDS	3.4		3.2		4.5	
90 PERCENT EXCEEDS	3.1		3.0		3.1	

11414690 JACKSON LAKE NEAR SIERRA CITY, CA

LOCATION.--Lat 39°27'52", long 120°33'44", in SW 1/4 SW 1/4 sec.31, T.19 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on outlet structure on Jackson Lake Dam on Jackson Creek, 3.0 mi upstream from Bowman Lake, and 8.0 mi southeast of Sierra City.

DRAINAGE AREA.--0.65 mi^2.

PERIOD OF RECORD.--October 1986 to current year. Unpublished records for water years 1965-86 available in files of U.S. Geological Survey.

GAGE.--Staff gage, observed approximately weekly except during the winter months. Datum of gage is 6,570 ft above sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed on natural lake by earth-filled dam completed in 1859. Usable capacity, 974 acre-ft between gage height 0.0 ft, invert of outlet, and 22.67 ft, crest of spillway. Dead storage below gage height 0.0 ft, 360 acre-ft. Figures given represent total contents. Released water is used for hydroelectric power and irrigation downstream. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Nevada Irrigation District in 1964)

0	360	15	958
5	545	20	1,185
10	730	24	1,407

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	940	---	1012	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	1167
4	---	876	---	---	---	---	---	---	1355	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	1230	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	1135
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	912	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	1117
17	---	---	---	---	---	---	---	---	1396	---	---	---
18	---	---	---	---	---	---	---	---	1341	---	---	---
19	---	949	---	---	---	---	---	---	---	---	1181	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	885	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	1176	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	1241	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11414700 JACKSON CREEK BELOW JACKSON LAKE, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°27'53", long 120°33'46", in SW 1/4 SW 1/4 sec.31, T.19 N., R.13 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 75 ft downstream from Jackson Lake Dam on Jackson Creek, 3.0 mi upstream from Bowman Lake, and 8.0 mi southeast of Sierra City.

DRAINAGE AREA.--0.65 mi^2.

PERIOD OF RECORD.--January 1989 to September 1992, April 1993 to current year (low-flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,570 ft above sea level, from topographic map. October 1964 to October 1986, nonrecording gage at site 25 ft downstream at different datum. October 1986 to January 1989, nonrecording gage at same site and datum.

REMARKS.--No records computed above 2.9 ft^3/s. There was no usable data for the entire year, except for instantaneous observations, due to equipment malfunction. Flow regulated by Jackson Lake (station 11414690). Flow over the spillway bypasses this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.89	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	1.1	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	.89	---	---	---
5	---	---	---	---	.96	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	1.1
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	.96	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	1.2
17	---	---	---	---	---	---	---	---	---	.89	---	---
18	---	---	---	---	---	---	---	---	.89	---	.96	---
19	---	---	---	---	---	.96	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	.86	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'01", long 120°39'09", in SE 1/4 SW 1/4 sec.5, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on right bank near rockfill portion of Bowman Dam on Canyon Creek, 4.6 mi east of Graniteville, and 8 mi south of Sierra City.

DRAINAGE AREA.--27.1 mi^2.

PERIOD OF RECORD.--December 1926 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Nevada Irrigation District). Prior to Oct. 8, 1964, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by one rockfill and one concrete-arch dam; storage began in November 1926. Total capacity, 68,700 acre-ft between elevations 5,400 ft, bottom of outlet tunnel, and 5,563.6 ft, top of radial spillway gates and crest of concrete-arch dam. Flashboards are occasionally added, increasing elevation to 5,565.8 ft and capacity to 70,400 acre-ft, all of which is available for release. Lake receives water from Middle Yuba River via Milton-Bowman Tunnel (station 11408000), and releases it through Bowman-Spaulding Canal (station 11416000) which conveys it to reservoirs of Pacific Gas & Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. Records, including extremes, represent total contents. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft, May 30, 1965, elevation, 5,566.5 ft; lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1-20, 1966, Oct. 4-29, 1972, and Sept. 21-30, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 69,000 acre-ft, June 4, elevation, 5564.11 ft; minimum, 37,000 acre-ft, Mar. 15, elevation, unknown.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table dated Nov. 24, 1926)

5,419.6	0	5,470	10,200
5,430	900	5,480	14,200
5,440	2,100	5,510	30,000
5,450	4,100	5,540	49,800
5,460	6,900	5,570	73,800

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38700	38100	41500	e68600	e56400	e41700	e43300	55600	68800	62400	58100	45300
2	38600	38100	41500	e68500	e56000	e41200	e43600	56000	68700	62000	57600	44900
3	38600	38100	41500	e66400	e55500	e40800	e43700	56400	68800	61600	57200	44500
4	38600	38100	41500	e65000	e54800	e40300	e43700	56900	69000	61200	56800	44000
5	38600	38000	44400	e64100	e54100	e39800	e43700	57500	68800	60800	56400	43800
6	38500	38000	45100	e63800	e53700	e39300	e43800	58000	68700	60900	56000	43500
7	38500	38000	45400	e63600	e53400	e38700	e43800	58600	68600	61000	55600	43200
8	38400	37900	45600	e63400	e52900	e38200	e43800	59100	68600	61200	55200	42800
9	38400	37900	46200	e63200	e52300	e37700	e43900	59700	68600	61400	54800	42600
10	38400	37800	47400	e63000	e51700	e37400	e43800	60400	68500	61600	54400	42300
11	38400	37800	48400	e62700	e51200	e37200	e43800	61000	68500	61800	54000	42000
12	38400	37800	51600	e62400	e50600	e37200	e43800	61500	68400	61900	53600	41800
13	38400	37700	52600	e62100	e50000	e37100	e43800	62200	68300	62100	53100	41500
14	38400	37600	52800	e61800	e49500	e37100	e44000	62900	68100	62300	52700	41300
15	38400	37600	52600	e61300	e48900	e37000	e44300	63700	68000	62500	52300	41000
16	38400	37600	52400	e60800	e48500	e37100	e44700	64400	67800	62600	51900	40800
17	38400	37900	52000	e60300	e48000	e37200	e45200	65100	67700	62800	51500	40500
18	38400	39200	51700	e59700	e47500	e37300	e46200	65800	67300	62900	51100	40200
19	38400	39700	51300	e59200	e47000	e37400	e47600	66400	67000	62900	50700	40000
20	38400	40200	50800	e58800	e46500	e37600	e48800	67000	66600	62800	50300	39700
21	38400	40400	50600	e58400	e45900	e37900	e50000	67400	66200	62500	49900	39700
22	38400	41000	e50600	e57900	e45300	e38200	e51300	67700	65900	62200	49500	39900
23	38400	41400	e50300	e57400	e44800	e38600	e52400	68100	65500	61800	49100	40100
24	38300	41500	e49900	e57400	e44200	e39000	e53100	68600	65100	61400	48700	40300
25	38300	41500	e49400	e57900	e43700	e39500	e53500	68800	64700	61000	48300	40700
26	38300	41500	e49400	e58300	e43200	e40200	e53800	68800	64300	60600	47900	41000
27	38300	41500	e49600	e58400	e42700	e40900	e54300	68800	63900	60200	47400	41500
28	38200	41400	e49800	e58000	e42200	e41500	e54700	68800	63500	59800	47000	41800
29	38200	41300	e50800	e57600	---	e42000	e55000	68800	63100	59400	46600	42300
30	38200	41300	e54800	e57200	---	e42600	e55300	68800	62800	59000	46200	42700
31	38200	---	e62300	e56700	---	e43000	---	68800	---	58500	45700	---
MAX	38700	41500	62300	68600	56400	43000	55300	68800	69000	62900	58100	45300
MIN	38200	37600	41500	56700	42200	37000	43300	55600	62800	58500	45700	39700
a	5523.10	5527.78						5563.87	5556.67	5551.29	5534.12	5529.88
b	-500	+3100	+21000	-5600	-14500	+800	+12300	+13500	-6000	-4300	-12800	-3000

CAL YR 1996 MAX 69800 MIN 37600 b +20900
WTR YR 1997 MAX 69000 MIN 37000 b +4000

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°20'32", long 120°38'26", in SW 1/4 NW 1/4 sec.16, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, at outlet of Jordan Creek Siphon, 0.6 mi downstream from Fuller Lake and 3.5 mi northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and Venturi section. Elevation of gage is 5,340 ft above sea level, from topographic map.

REMARKS.--Records show water diverted from Bowman Lake (station 11415500) plus numerous small tributaries before it enters Lake Spaulding (station 11414140). Most of the water at this gage flows downstream through Spaulding No. 3 Powerplant (station 11416200). See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 335 ft^3/s, Dec. 25, 1983; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	225	265	292	265	282	291	294	312	298	297	292
2	95	223	263	276	270	281	295	302	312	296	297	292
3	234	221	256	119	259	282	297	305	314	296	299	292
4	227	221	254	73	270	278	298	304	308	294	299	290
5	221	221	283	52	270	264	299	302	310	293	300	291
6	215	222	238	46	267	264	299	302	304	234	298	293
7	218	222	197	50	263	279	298	301	297	49	292	291
8	218	222	194	92	263	284	300	284	299	.00	290	290
9	220	221	234	230	267	285	303	301	306	.00	288	279
10	219	220	298	287	267	287	306	302	309	.00	288	290
11	215	210	227	303	273	280	308	306	294	.00	290	300
12	214	202	296	291	274	278	307	307	294	.00	291	305
13	215	222	316	284	272	279	308	312	308	.00	292	304
14	212	213	288	268	273	279	290	316	307	.00	294	301
15	209	195	247	265	277	284	281	317	302	.00	294	302
16	216	218	277	270	281	293	305	315	299	.00	293	300
17	214	251	291	258	290	305	313	313	294	.00	293	299
18	213	254	297	257	289	307	317	311	291	.00	293	292
19	212	209	290	289	282	305	323	309	299	.00	293	288
20	210	214	292	275	279	305	308	312	300	6.3	293	283
21	209	183	300	275	276	306	303	317	299	135	294	172
22	216	208	252	263	273	299	306	318	299	252	293	29
23	220	223	264	248	270	300	285	317	299	260	292	14
24	220	254	281	262	262	302	287	320	298	287	292	.00
25	218	259	282	267	260	307	272	319	298	290	296	.00
26	187	256	292	227	275	311	287	318	297	290	297	.00
27	202	253	253	133	285	314	290	317	297	290	296	1.7
28	223	254	203	84	286	308	293	291	297	296	295	.00
29	228	254	129	274	---	300	302	290	295	301	295	24
30	227	253	199	280	---	293	299	305	297	299	294	41
31	223	---	241	262	---	291	---	309	---	297	293	---
TOTAL	6457	6803	7999	6852	7638	9032	8970	9536	9035	4763.30	9111	6155.70
MEAN	208	227	258	221	273	291	299	308	301	154	294	205
MAX	234	259	316	303	290	314	323	320	314	301	300	305
MIN	87	183	129	46	259	264	272	284	291	.00	288	.00
AC-FT	12810	13490	15870	13590	15150	17910	17790	18910	17920	9450	18070	12210
a	13010	14040	16450	13300	15790	18400	18010	18740	18040	9550	18620	12380

a Discharge, in acre-feet, through Spaulding No. 3 Powerplant, provided by Pacific Gas & Electric Co.

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	192	199	201	196	185	208	219	231	232	209	250	258
MAX	306	308	312	313	311	311	311	319	315	305	316	311
(WY)	1983	1984	1984	1984	1995	1983	1980	1983	1983	1983	1993	1983
MIN	29.5	.000	41.9	37.8	21.4	26.3	19.3	33.9	.000	45.6	40.2	143
(WY)	1973	1965	1978	1977	1991	1977	1977	1965	1965	1991	1988	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	92343.30		92352.00			
ANNUAL MEAN	252		253		215	
HIGHEST ANNUAL MEAN					304	1983
LOWEST ANNUAL MEAN					77.9	1977
HIGHEST DAILY MEAN	329	May 15	323	Apr 19	335	Dec 25 1983
LOWEST DAILY MEAN	.00	Jul 9	.00	Jul 8	.00	Oct 29 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 9	.00	Jul 8	.00	Oct 29 1964
ANNUAL RUNOFF (AC-FT)	183200		183200		155800	
ANNUAL DISCHARGE (AC-FT) a	179600		186300			
10 PERCENT EXCEEDS	312		307		306	
50 PERCENT EXCEEDS	276		287		252	
90 PERCENT EXCEEDS	198		179		63	

a Discharge, in acre-feet, through Spaulding No. 3 Powerplant, provided by Pacific Gas & Electric Co.

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION.--Lat 39°26'23", long 120°39'37", in NE 1/4 SE 1/4 sec.7, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, on left bank 1 mi downstream from Bowman Dam, 3.5 mi upstream from Texas Creek, and 8.8 mi south of Sierra City.

DRAINAGE AREA.--28.3 mi^2.

PERIOD OF RECORD.--January 1927 to current year.

REVISED RECORDS.--WSP 1315-A: 1930(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,300 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Bowman Lake (station 11415500), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (station 11416000). See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 5,500 ft^3/s, Jan. 2, 1997, gage height, 13.01 ft, from floodmarks (backwater from debris), from rating curve extended above 1,500 ft^3/s, on basis of computation of flow over Bowman Dam; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.1	8.0	e2250	e123	e128	e9.0	e105	114	6.1	e4.1	4.9
2	3.2	4.1	4.9	e5520	e122	e92	e9.0	e10	105	6.0	4.3	4.9
3	3.8	4.1	4.3	e2330	e121	e77	e9.0	e10	82	5.9	4.2	4.9
4	3.8	4.0	7.7	e1060	e121	e97	e10	e10	388	5.9	4.3	4.9
5	3.8	3.4	18	e559	e120	e46	e10	e8.0	384	5.8	4.3	5.4
6	3.8	3.4	6.7	e237	e141	e66	e9.0	e8.0	190	4.9	4.2	6.2
7	3.8	3.4	5.3	e133	e119	e65	e9.0	8.4	109	4.6	4.3	6.2
8	3.8	3.4	5.9	e6.0	e110	e115	e5.0	9.5	63	e4.6	4.3	6.0
9	3.8	3.4	10	e6.0	e110	e68	e9.0	7.9	50	e4.7	4.3	5.9
10	3.8	3.4	16	e6.0	e110	e32	e19	7.7	48	e4.4	4.4	6.2
11	3.8	3.2	35	e6.0	e111	e6.0	e9.0	7.6	29	e4.3	4.4	6.3
12	3.8	3.2	77	e6.0	e111	e6.0	e6.0	7.4	31	e4.2	4.4	6.2
13	3.8	3.5	87	e6.0	e111	e6.0	e9.0	7.5	65	e4.1	4.4	6.2
14	3.8	3.7	80	e80	e112	e9.0	e6.0	7.4	51	e4.0	4.3	6.4
15	3.8	3.8	64	e73	e112	e9.0	e9.0	7.3	43	e3.9	4.3	6.4
16	3.8	3.8	50	e122	e105	e9.0	e9.0	28	41	e3.8	4.4	6.2
17	3.8	12	46	e139	e103	e11	e9.0	76	23	e3.7	4.4	6.1
18	3.8	10	86	e138	e103	e9.0	e10	76	6.8	e3.6	4.4	6.1
19	3.8	7.9	158	e138	e105	e9.0	e9.0	70	7.8	e3.6	4.4	6.0
20	3.8	5.6	154	e137	e104	e12	e9.0	49	7.5	e3.6	4.6	5.8
21	3.8	4.9	152	e136	e99	e25	e9.0	49	7.2	e3.5	4.5	5.7
22	3.8	9.6	150	e6.0	e102	e3.0	e49	48	7.1	e3.5	4.4	29
23	3.8	5.8	153	e6.0	e114	e7.0	e145	50	7.0	e3.4	4.4	41
24	4.1	4.5	154	e6.0	e35	e7.0	e172	52	6.8	e3.4	4.5	41
25	4.1	4.2	154	e124	e108	e9.0	e152	115	6.6	e3.3	4.5	42
26	3.9	4.0	158	e124	e108	e17	e134	173	6.5	e3.3	4.6	31
27	4.1	3.8	163	e142	e102	e9.0	e133	157	6.5	e3.2	4.6	14
28	4.1	3.8	163	e149	e110	e9.0	e118	140	6.4	e3.2	4.6	14
29	4.3	3.8	234	e141	---	e10	e112	136	6.3	e3.1	4.7	14
30	4.3	3.8	287	e129	---	e9.0	e52	121	6.3	e3.3	4.8	10
31	4.1	---	e260	e123	---	e9.0	---	112	---	e3.7	4.8	---
TOTAL	119.4	141.6	2951.8	14038.0	3052	986.0	1259.0	1673.7	1904.8	128.6	137.1	358.9
MEAN	3.85	4.72	95.2	453	109	31.8	42.0	54.0	63.5	4.15	4.42	12.0
MAX	4.3	12	287	5520	141	128	172	173	388	6.1	4.8	42
MIN	3.2	3.2	4.3	6.0	35	3.0	5.0	7.3	6.3	3.1	4.1	4.9
AC-FT	237	281	5850	27840	6050	1960	2500	3320	3780	255	272	712
a	11660	10540	8440	12960	13940	15710	15610	17610	16970	9620	17960	11700

e Estimated.

a Diversion, in acre-feet, to Bowman-Spaulding Canal, provided by Nevada Irrigation District.

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.97	6.24	17.6	23.7	18.2	27.1	42.6	125	142	13.7	2.59	2.47
MAX	24.1	195	360	453	198	629	325	773	542	314	37.3	17.0
(WY)	1973	1984	1965	1997	1965	1986	1940	1963	1952	1952	1952	1952
MIN	.13	.19	.20	.20	.50	.58	.46	.43	.30	.029	.000	.000
(WY)	1935	1940	1937	1937	1933	1935	1934	1947	1977	1935	1934	1963

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1927 - 1997	
ANNUAL TOTAL	29025.8		26750.9			
ANNUAL MEAN	79.3		73.3		34.9	
HIGHEST ANNUAL MEAN					165	1965
LOWEST ANNUAL MEAN					.81	1931
HIGHEST DAILY MEAN	2120	May 18	5520	Jan 2	5520	Jan 2 1997
LOWEST DAILY MEAN	2.7	Aug 25	3.0	Mar 22	.00	Apr 16 1934
ANNUAL SEVEN-DAY MINIMUM	2.9	Aug 20	3.3	Jul 24	.00	Apr 16 1934
INSTANTANEOUS PEAK FLOW			5500	Jan 2	5500	Jan 2 1997
INSTANTANEOUS PEAK STAGE			13.01	Jan 2	13.01	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	57570		53060		25320	
ANNUAL DIVERSION (AC-FT) a	143100		162700			
10 PERCENT EXCEEDS	200		136		56	
50 PERCENT EXCEEDS	7.6		7.8		3.0	
90 PERCENT EXCEEDS	3.5		3.8		.30	

a Diversion, in acre-feet, to Bowman-Spaulding Canal, provided by Nevada Irrigation District.

11416610 TEXAS CREEK BELOW LOWER ROCK LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°25'42", long 120°37'19", in SW 1/4 NW 1/4 sec.15, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 200 ft downstream from outlet structure on Lower Rock Lake Dam, and 6.4 mi east of Graniteville.

DRAINAGE AREA.--0.36 mi^2.

PERIOD OF RECORD.--October 1995 to current year (low-flow records only). Unpublished records for water years 1974 and 1979-95 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 6,615 ft above sea level, from topographic map. August 1965 to August 1995, nonrecording gage at same site and datum.

REMARKS.--Records not computed for winter months or above 1.2 ft^3/s. Flow regulated by Lower Rock Lake. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	.06	.26	---	---	---	---	---	---	.41	.64	.27
2	---	.06	.27	---	---	---	---	---	---	.37	.62	.27
3	---	.06	.27	---	---	---	---	---	---	.35	.61	.27
4	---	.06	---	---	---	---	---	---	---	.29	.61	.27
5	---	.06	---	---	---	---	---	---	---	.19	.59	.27
6	---	.06	---	---	---	---	---	---	---	.20	.50	.27
7	---	.06	.94	---	---	---	---	---	1.0	.35	.17	.27
8	---	.06	.78	---	---	---	---	---	.82	.35	.10	.27
9	---	.06	---	---	---	---	---	---	---	.33	.06	.27
10	---	.06	---	---	---	---	---	---	---	.27	.14	---
11	---	.06	---	---	---	---	---	---	---	.25	.24	---
12	---	.06	---	---	---	---	---	---	.87	.24	.24	---
13	---	.06	---	---	---	---	---	---	.86	.24	.23	---
14	---	.06	---	---	---	---	---	---	.72	.22	.24	---
15	---	.06	---	---	---	---	---	---	.68	.21	.24	---
16	---	.06	---	---	---	---	---	---	.52	.20	.25	---
17	---	.30	---	---	---	---	---	---	.75	.18	.27	---
18	---	.38	---	---	---	---	---	---	.92	.16	.27	.44
19	---	.28	1.1	---	---	---	---	---	.46	.17	.27	.42
20	---	.21	---	---	---	---	---	---	.31	.27	.28	.41
21	1.1	.18	---	---	---	---	---	---	.23	.30	.39	.41
22	.62	.25	---	---	---	---	---	---	.40	.30	.44	.40
23	.31	.24	---	---	---	---	---	---	.41	.27	.45	.38
24	.24	.21	---	---	---	---	---	---	.39	.25	.47	.37
25	.27	.21	1.0	---	---	---	---	---	.39	.23	.46	.36
26	.17	.21	---	---	---	---	---	---	.33	.22	.45	.35
27	.08	.21	---	---	---	---	---	---	.26	.28	.43	.35
28	.02	.21	---	---	---	---	---	---	.23	.53	.35	.31
29	.02	.21	---	---	---	---	---	---	.22	.69	.27	.30
30	.05	.21	---	---	---	---	---	---	.45	.68	.27	.30
31	.06	---	---	---	---	---	---	---	---	.66	.27	---
TOTAL	---	4.27	---	---	---	---	---	---	---	9.66	10.82	---
MEAN	---	.14	---	---	---	---	---	---	---	.31	.35	---
MAX	---	.38	---	---	---	---	---	---	---	.69	.64	---
MIN	---	.06	---	---	---	---	---	---	---	.16	.06	---
AC-FT	---	8.5	---	---	---	---	---	---	---	19	21	---

11416620 TEXAS CREEK TRIBUTARY BELOW CULBERTSON LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°25'17", long 120°37'21", in SW 1/4 SW 1/4 sec.15, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on right bank 150 ft downstream from outlet structure on Culbertson Lake Dam, 0.15 mi upstream from Texas Creek, and 6.4 mi east of Graniteville.

DRAINAGE AREA.--0.44 mi^2.

PERIOD OF RECORD.--October 1988 to current year (low-flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,420 ft above sea level. October 1965 to August 1988, nonrecording gage at site 10 ft downstream at different datum. August to September 1988, nonrecording gage at same site and datum.

REMARKS.--Records not computed for winter months or above 1.2 ft^3/s. Low and medium flow regulated by Culbertson Lake (capacity, 953 acre-ft). See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	.22	.31	---	---	---	---	---	.73	.60	---	.76
2	---	.18	.32	---	---	---	---	---	.81	.54	---	.76
3	---	.16	.32	---	---	---	---	---	.98	.50	---	.76
4	---	.14	.33	---	---	---	---	---	.95	.49	---	.75
5	---	.09	.47	---	---	---	---	---	.88	.46	---	.73
6	---	.02	.46	---	---	---	---	---	.80	.69	1.1	.73
7	---	.02	.46	---	---	---	---	---	.76	.84	.73	.82
8	---	.04	.44	---	---	---	---	---	.72	.81	.62	.92
9	---	.07	.47	---	---	---	---	---	.71	.76	.54	.89
10	---	.08	.52	---	---	---	---	---	.66	.71	.65	---
11	---	.10	.60	---	---	---	---	---	.89	.70	.70	---
12	---	.09	.77	---	---	---	---	---	1.2	.66	.62	---
13	---	.08	.76	---	---	---	---	---	1.2	.75	.67	---
14	---	.07	.74	---	---	---	---	---	1.1	.79	.69	---
15	---	.06	.73	---	---	---	---	---	1.1	.76	.62	---
16	---	.04	.73	---	---	---	---	---	1.0	.74	.75	---
17	.82	.71	.72	---	---	---	---	---	1.0	.70	.96	---
18	.82	---	.70	---	---	---	---	---	1.0	.70	.93	.74
19	.82	---	.70	---	---	---	---	---	.97	.70	.89	.73
20	.77	---	.70	---	---	---	---	---	.94	.70	.89	.70
21	.72	.37	.72	---	---	---	---	---	.88	.62	.86	.70
22	.71	.33	.73	---	---	---	---	.79	.83	.61	.85	.70
23	.76	.33	.73	---	---	---	---	.79	.79	.76	.85	.69
24	.68	.34	.73	---	---	---	---	.83	.75	.93	.85	.67
25	.65	.34	.73	---	---	---	---	.96	.73	.88	.82	.74
26	.53	.31	.76	---	---	---	---	.89	.73	.89	.82	.78
27	.34	.30	.79	---	---	---	---	.85	.68	.86	.82	.76
28	.29	.30	.79	---	---	---	---	.82	.61	.82	.79	.76
29	.26	.30	.84	---	---	---	---	.79	.57	.82	.78	.76
30	.39	.30	.98	---	---	---	---	.76	.63	1.1	.76	.76
31	.36	---	1.2	---	---	---	---	.76	---	---	.76	---
TOTAL	---	---	20.25	---	---	---	---	---	25.60	---	---	---
MEAN	---	---	.65	---	---	---	---	---	.85	---	---	---
MAX	---	---	1.2	---	---	---	---	---	1.2	---	---	---
MIN	---	---	.31	---	---	---	---	---	.57	---	---	---
AC-FT	---	---	40	---	---	---	---	---	51	---	---	---

11416700 LINDSEY CREEK BELOW LOWER LINDSEY LAKE, NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°24'43", long 120°38'35", in NE 1/4 SE 1/4 sec.20, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, Tahoe National Forest, on left bank 10 ft downstream from outlet structure on Lower Lindsey Lake Dam and 5.5 mi east of Graniteville.

DRAINAGE AREA.--0.91 mi^2.

PERIOD OF RECORD.--October 1988 to current year (low-flow records only). Unpublished records for water years 1965-88 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,225 ft above sea level, from topographic map. October 1965 to July 1984, nonrecording gage at same site and different datum. July 1984 to August 1988, nonrecording gage at same site and different datum.

REMARKS.--Records not computed for winter months or above 1.2 ft^3/s. Low and medium flow regulated by Lower Lindsey Lake, capacity, 293 acre-ft. Spillway flows bypass this station. See schematic diagram of Yuba River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	.61	---	---	---	---	---	---	.34	.59	.67	.59
2	---	.61	---	---	---	---	---	---	.42	.56	.91	.70
3	---	.61	---	---	---	---	---	---	.56	.56	.99	.70
4	---	.61	---	---	---	---	---	---	.56	.55	.99	.69
5	---	.61	---	---	---	---	---	---	.56	.40	.95	.67
6	---	.61	---	---	---	---	---	---	.57	.49	.71	.67
7	---	.61	---	---	---	---	---	---	.59	.98	.51	.67
8	---	.61	---	---	---	---	---	---	.63	1.1	.46	.67
9	---	.61	---	---	---	---	---	---	.78	.92	.42	---
10	---	.59	---	---	---	---	---	---	.70	.58	.47	---
11	---	.59	---	---	---	---	---	---	.53	.56	.53	---
12	---	.59	---	---	---	---	---	---	.43	.56	.58	---
13	---	.59	---	---	---	---	---	---	.38	.54	.63	---
14	---	.57	---	---	---	---	---	---	.34	.55	.63	---
15	---	.56	---	---	---	---	---	---	.34	.56	.61	---
16	1.2	.59	---	---	---	---	---	---	.32	.56	.60	---
17	.63	.59	---	---	---	---	---	---	.32	.56	.74	---
18	.64	.71	---	---	---	---	---	---	.53	.56	1.1	.67
19	.66	.71	---	---	---	---	---	---	.70	.54	1.1	.63
20	.67	.62	---	---	---	---	---	---	.69	.55	.85	.57
21	.65	---	---	---	---	---	---	---	.75	.38	.67	.59
22	.64	---	---	---	---	---	---	.46	.73	.45	.67	.59
23	.64	---	---	---	---	---	---	.41	.67	.61	.66	.59
24	.66	---	---	---	---	---	---	.34	.49	.51	.74	.58
25	.67	---	---	---	---	---	---	.29	.51	.47	.75	.55
26	.62	---	---	---	---	---	---	.21	.47	.46	.52	.54
27	.35	---	---	---	---	---	---	.31	.61	.52	.51	.53
28	.34	---	---	---	---	---	---	.51	.58	.57	.51	.51
29	.33	---	---	---	---	---	---	.46	.33	.56	.49	.49
30	.40	---	---	---	---	---	---	.47	.49	.58	.46	.49
31	.64	---	---	---	---	---	---	.53	---	.61	.46	---
TOTAL	---	---	---	---	---	---	---	---	15.92	17.99	20.89	---
MEAN	---	---	---	---	---	---	---	---	.53	.58	.67	---
MAX	---	---	---	---	---	---	---	---	.78	1.1	1.1	---
MIN	---	---	---	---	---	---	---	---	.32	.38	.42	---
AC-FT	---	---	---	---	---	---	---	---	32	36	41	---

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA

LOCATION.--Lat 39°17'32", long 121°06'13", in NW 1/4 SE 1/4 sec.32, T.17 N., R.8 E., Nevada County, Hydrologic Unit 18020125, on left bank at Jones Bar, 100 ft upstream from Rush Creek, 0.9 mi downstream from bridge on State Highway 49, and 5 mi northwest of Grass Valley.

DRAINAGE AREA.--308 mi^2.

PERIOD OF RECORD.--October 1940 to September 1948, April 1959 to current year. Published as South Fork Yuba River at Jones Bar 1940-48, and as South Yuba River at Jones Bar 1959-63. Yearly discharge for the 1947 water year published in WSP 1315-A.
SEDIMENT DATA: Water years 1966-74.
WATER TEMPERATURE: Water years 1965-79 (daily records).

REVISED RECORDS.--WSP 1315-A: 1942-43(M), drainage area at former site. WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,060 ft above sea level, from river-profile map. Oct. 1, 1940, to Sept. 30 1948, at site 150 ft upstream at datum 2.00 ft higher.

REMARKS.--Records good except for estimated daily discharges which are fair. Flow regulated by Lake Spaulding, Fordyce Lake, and Bowman Lake (stations 11414140, 11414090, and 11415500) and many smaller reservoirs. Diversions into and out of basin for several powerplants and for irrigation. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,600 ft^3/s, Dec. 22, 1964, gage height, 25.0 ft, from floodmarks, from rating curve extended above 23,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft^3/s, Sept. 10-13, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 30.7 ft, from floodmarks, present datum, at site 100 ft upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	64	160	e30300	2070	775	1080	567	263	56	40	40
2	48	59	238	e30300	2010	832	946	629	216	54	40	40
3	49	56	154	13200	1800	800	803	490	210	52	40	40
4	48	105	156	e7080	1630	755	636	688	717	51	40	40
5	46	57	2710	e3880	1470	819	620	904	1280	50	40	39
6	46	55	1040	e3340	1230	873	604	536	480	49	40	39
7	45	54	591	e2630	1270	895	557	421	223	52	50	39
8	45	54	435	e2630	1240	936	530	743	135	53	41	39
9	44	54	630	e1800	1140	967	427	749	103	61	38	39
10	44	53	3530	e1540	1090	1010	571	944	139	60	38	38
11	44	52	2640	e1400	1040	1020	554	908	154	60	39	38
12	44	52	4710	e1300	947	1050	537	875	117	59	39	39
13	46	51	2650	e1220	927	1000	543	929	110	55	39	39
14	47	52	1550	e1130	950	968	564	887	94	54	39	39
15	45	53	1080	e1060	981	976	613	924	88	53	39	46
16	45	57	795	e1020	1020	1140	655	906	82	49	38	49
17	45	138	675	1020	1140	1320	602	817	78	46	38	44
18	49	964	586	995	1120	1250	650	989	69	45	38	43
19	54	327	533	955	1050	1220	1560	821	59	48	39	43
20	53	477	489	1050	997	1300	1940	690	58	43	44	43
21	50	214	950	1210	952	1370	1570	533	57	44	49	42
22	49	437	1050	4450	911	1450	1530	427	56	51	43	42
23	49	545	822	4070	872	1560	1480	392	56	40	41	52
24	50	270	665	2190	823	1660	1280	815	55	42	40	67
25	57	184	588	5920	781	1660	790	451	54	43	41	65
26	65	149	1420	8400	768	1610	446	308	53	42	41	65
27	55	127	4840	5580	801	1780	448	253	52	41	41	61
28	58	116	3060	3830	810	1690	528	184	52	41	41	45
29	61	111	3730	2820	---	1470	699	150	52	41	41	44
30	90	101	6940	2370	---	1310	688	139	52	40	40	48
31	76	---	12500	2130	---	1230	---	256	---	40	40	---
TOTAL	1595	5088	61917	150820	31840	36696	24451	19325	5214	1515	1257	1347
MEAN	51.5	170	1997	4865	1137	1184	815	623	174	48.9	40.5	44.9
MAX	90	964	12500	30300	2070	1780	1940	989	1280	61	50	67
MIN	44	51	154	955	768	755	427	139	52	40	38	38
AC-FT	3160	10090	122800	299200	63150	72790	48500	38330	10340	3010	2490	2670

e Estimated.

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	82.0	206	497	795	773	774	697	899	654	120	38.3	38.5
MAX	1197	1350	3756	4865	4078	3029	2804	3323	3618	996	84.9	132
(WY)	1963	1984	1965	1997	1986	1986	1982	1963	1967	1983	1983	1965
MIN	11.7	24.2	37.4	45.0	64.0	67.2	51.1	68.3	31.8	11.6	3.05	1.42
(WY)	1945	1960	1960	1991	1977	1977	1977	1992	1977	1947	1947	1947

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1941 - 1997	
ANNUAL TOTAL	313526		341065			
ANNUAL MEAN	857		934		469	
HIGHEST ANNUAL MEAN					1135	1995
LOWEST ANNUAL MEAN					42.6	1977
HIGHEST DAILY MEAN	13400	May 16	30300	Jan 1	30300	Jan 1 1997
LOWEST DAILY MEAN	44	Oct 9	38	Aug 9	1.0	Sep 10 1944
ANNUAL SEVEN-DAY MINIMUM	45	Oct 6	39	Aug 12	1.0	Sep 9 1944
INSTANTANEOUS PEAK FLOW			49700	Jan 1	53600	Dec 22 1964
INSTANTANEOUS PEAK STAGE			24.25	Jan 1	25.00	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	621900		676500		340100	
10 PERCENT EXCEEDS	1770		1660		1150	
50 PERCENT EXCEEDS	281		263		124	
90 PERCENT EXCEEDS	50		40		28	

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA

LOCATION.--Lat 39°14'07", long 121°16'23", in NW 1/4 NW 1/4 sec.23, T.16 N., R.6 E., Yuba County, Hydrologic Unit 18020125, on right bank 2,000 ft downstream from Englebright Dam, 0.5 mi upstream from Deer Creek, and 2.3 mi northeast of Smartville.

DRAINAGE AREA.--1,108 mi^2.

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1953, published as "at Narrows Dam." October 1953 to Sept. 30, 1969, published as "at Englebright Dam." If records for Deer Creek near Smartville (station 11418500) since 1941 are added to records at this station, records equivalent to those published from 1903 to 1941 as Yuba River at Smartville (station 11419000) can be obtained.
WATER TEMPERATURE: Water years 1973-78.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and acoustic velocity meters. Datum of gage is 278.68 ft above sea level (levels by International Engineering Co.). Prior to Sept. 19, 1958, at site 2,000 ft upstream at datum 248.31 ft higher, and Sept. 19, 1958, to Sept. 30, 1969, at datum 278.68 ft lower. Supplementary gage 2,000 ft upstream since Oct. 1, 1969, at Englebright Dam at datum 248.31 ft higher.

REMARKS.--Diversions up to 1,800 ft^3/s (see stations 11413250, 11414190, and 11414200) out of basin for power and irrigation upstream from station. Flow regulation by Lake Spaulding (station 11414140), Jackson Meadows and New Bullards Bar Reservoirs (stations 11407800 and 11413515), Englebright Reservoir beginning in 1941, capacity, 70,000 acre-ft, Bowman and Fordyce Lakes (stations 11415500 and 11414090), and many smaller reservoirs.See schematic diagram of Yuba River basin. Flow is determined by adding the discharges provided by Narrows Powerplant No. 1 (1141970), Narrows Powerplant No. 2 (11417980), and spill over Englebright Dam (11417950).

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 171,000 ft^3/s, Dec. 22, 1964, gage height, 546.14 ft, site and datum then in use, from rating curve extended above 25,000 ft^3/s on basis of computation of peak flow over spillway of dam at gage heights 544.72 and 546.14 ft; no flow at times in 1942, 1949, 1956, 1958-61, 1968-69.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2000	1420	1240	105000	8690	3920	2110	1790	1080	1100	2190	1700
2	2100	1410	1330	134000	8590	3860	2340	2020	1090	1090	2190	1500
3	2010	1420	1400	78800	8200	3860	2180	1990	1100	1110	2210	1290
4	1980	1420	1400	50700	7860	3850	2240	2020	1090	1110	2170	778
5	1690	1420	1690	35000	7590	3870	1570	2010	1300	1110	2330	893
6	1420	1410	2250	26200	7470	3820	1320	1990	1350	1090	2500	805
7	1420	1400	2860	18000	7010	3760	1320	2020	1150	1220	2540	853
8	1420	1410	2830	12600	6270	3780	1320	1800	1040	1430	2500	838
9	1410	1410	2900	10800	5920	3800	1300	1490	1030	1660	2500	662
10	1420	1410	3240	9230	5570	3790	1300	1460	1030	1930	2510	663
11	1420	1400	3360	8780	5050	3830	1300	1470	1030	2130	2500	661
12	1410	1410	8350	8260	4960	3880	1290	1350	1030	2200	2430	659
13	1420	1400	5710	7420	4740	3820	1270	1260	1030	2170	2280	659
14	1400	1350	4300	6110	4390	3200	1300	1240	1030	2200	2210	663
15	1420	1250	3450	5180	4410	3240	1170	1230	1040	2160	2210	665
16	1410	1250	2970	5170	4600	3310	1020	1450	1040	2160	2210	664
17	1420	1260	4010	5040	4570	3310	1020	1490	1030	2160	2230	664
18	1420	1250	3910	4990	4650	3300	1040	1240	1040	2180	2240	665
19	1420	1260	3900	4890	4400	3270	1770	1260	1050	2180	2260	661
20	1420	1250	4280	5010	4190	3310	3350	1280	1040	2190	2220	664
21	1420	1250	4100	5210	4460	3370	3430	1240	1050	2170	2260	660
22	1420	1250	4080	11800	4250	3320	3390	1270	1050	2160	2220	659
23	1400	1250	3900	14900	4010	3330	2800	1240	1040	2170	2240	660
24	1430	1240	4000	11100	3830	3320	2430	1250	1040	2170	2210	662
25	1420	1230	4040	17500	4070	3340	2270	1270	1060	2190	2140	663
26	1420	1250	4040	21100	4110	3270	2180	1250	1090	2190	2060	659
27	1410	1240	14100	17600	3930	3270	2170	1270	1100	2170	2040	673
28	1410	1240	25300	16100	4070	3030	2190	1270	1110	2180	2090	674
29	1420	1240	23800	14900	---	2350	2190	1270	1100	2180	2030	675
30	1420	1240	30900	11600	---	2320	2190	1270	1100	2210	1910	609
31	1410	---	53600	9900	---	2320	---	1180	---	2160	1700	---
TOTAL	46610	39640	237240	692890	151860	106020	56770	45640	32360	58530	69330	23201
MEAN	1504	1321	7653	22350	5424	3420	1892	1472	1079	1888	2236	773
MAX	2100	1420	53600	134000	8690	3920	3430	2020	1350	2210	2540	1700
MIN	1400	1230	1240	4890	3830	2320	1020	1180	1030	1090	1700	609
AC-FT	92450	78630	470600	1374000	301200	210300	112600	90530	64190	116100	137500	46020
a	25340	18870	14490	3780	0	1430	26990	46130	45350	55770	38410	13550

a Combined flow, in acre-feet, from Browns Valley Irrigation Ditch (11420750), Brophy South Canal (11420760) and Hallwood-Cordua Irrigation District Canal (11420770).

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	957	1228	2733	3611	3892	3566	3754	4028	2634	1327	1236	990
MAX	5206	8964	18100	22350	17330	13060	11950	13330	9017	4034	3140	3144
(WY)	1963	1951	1965	1997	1986	1995	1982	1952	1983	1983	1980	1980
MIN	207	41.3	175	283	211	199	437	367	501	430	326	202
(WY)	1960	1942	1960	1977	1977	1977	1976	1977	1977	1977	1944	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1942 - 1997	
ANNUAL TOTAL	1491027		1560091			
ANNUAL MEAN	4074		4274		2490	
HIGHEST ANNUAL MEAN					5251	1982
LOWEST ANNUAL MEAN					414	1977
HIGHEST DAILY MEAN	53600	Dec 31	134000	Jan 2	134000	Jan 2 1997
LOWEST DAILY MEAN	590	Sep 18	609	Sep 30	.00	Nov 8 1941
ANNUAL SEVEN-DAY MINIMUM	640	Sep 18	659	Sep 24	.00	Nov 8 1941
INSTANTANEOUS PEAK FLOW			135000	Jan 2	171000	Dec 22 1964
INSTANTANEOUS PEAK STAGE			41.53	Jan 2	546.14	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	2957000		3094000		1804000	
ANNUAL DISCHARGE (AC-FT) a	885700		290100			
10 PERCENT EXCEEDS	6430		6570		5280	
50 PERCENT EXCEEDS	2570		2020		1260	
90 PERCENT EXCEEDS	1250		1040		440	

a Combined flow, in acre-feet, from Browns Valley Irrigation Ditch (11420750), Brophy South Canal (11420760) and Hallwood-Cordua Irrigation District Canal (11420770).

11418500 DEER CREEK NEAR SMARTVILLE, CA

LOCATION.--Lat 39°13'28", long 121°16'03", in SW 1/4 SE 1/4 sec.23, T.16 N., R.6 E., Nevada County, Hydrologic Unit 18020125, on left bank 400 ft upstream from county road bridge, 0.9 mi upstream from mouth, and 2 mi northeast of Smartville.

DRAINAGE AREA.--84.6 mi^2.

PERIOD OF RECORD.--June 1935 to current year.
WATER TEMPERATURE: Water years 1974-79.
SEDIMENT DATA: Water years 1974-79.

REVISED RECORDS.--WSP 1395: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 630 ft above sea level, from river-profile map. June 21, 1935, to Nov. 30, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949, usable capacity, 26,300 acre-ft, increased to 49,000 acre-ft in July 1964; Deer Creek Reservoir, capacity, 1,400 acre-ft beginning 1949; Lake Wildwood, capacity, 3,840 acre-ft beginning in 1970, power developments, and diversion for irrigation. At times water from South Yuba River is diverted to Deer Creek and water from Deer Creek is diverted to Bear River. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft^3/s, Feb. 17, 1986, gage height, 14.05 ft, from rating curve extended above 5,200 ft^3/s; minimum daily, 0.06 ft^3/s, Aug. 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1928 reached a stage of 14.5 ft from floodmarks, discharge, 14,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	8.0	19	7280	480	130	34	64	9.7	6.0	4.7	4.5
2	2.5	7.9	14	7650	420	190	30	66	7.8	5.2	5.6	3.0
3	3.5	8.6	10	2810	370	156	26	43	9.1	5.3	5.2	2.4
4	4.1	8.7	9.8	1470	347	138	27	23	27	6.5	4.4	3.1
5	4.1	8.8	1110	984	316	137	26	18	23	5.7	4.0	4.0
6	4.0	9.0	182	705	288	132	29	14	19	4.9	4.1	4.8
7	3.1	8.6	72	575	265	111	29	12	15	3.0	3.6	5.2
8	3.2	8.7	46	488	261	113	30	11	10	2.5	3.8	3.6
9	3.3	8.2	161	420	242	125	31	12	6.5	2.8	3.9	3.8
10	2.5	8.8	1410	361	227	124	30	13	6.1	2.9	5.2	4.5
11	2.6	8.7	491	326	215	55	27	13	5.6	4.1	4.6	5.3
12	2.6	8.0	945	297	207	42	24	12	5.8	4.8	5.4	5.6
13	2.8	6.9	504	270	200	39	20	14	15	5.7	5.8	6.3
14	3.4	6.7	205	239	188	38	19	14	14	4.7	5.6	5.8
15	2.8	6.8	111	211	182	39	19	12	12	5.9	5.6	11
16	2.4	4.8	78	200	179	50	16	12	11	5.5	5.2	10
17	2.8	13	64	184	189	98	17	13	9.7	5.2	5.5	9.6
18	3.4	27	126	176	181	55	19	14	7.7	5.7	5.0	8.5
19	7.5	17	133	172	164	46	64	9.5	7.0	6.8	4.7	7.4
20	134	20	132	245	168	43	35	11	6.4	6.3	11	9.9
21	354	9.1	1130	381	151	44	28	11	7.1	4.9	16	14
22	384	125	1270	4070	147	42	55	9.7	6.1	5.4	11	16
23	361	114	386	2600	148	41	98	22	4.9	4.9	9.3	16
24	180	19	192	925	139	39	83	32	5.2	5.8	7.9	14
25	4.8	12	148	2710	137	37	78	20	6.5	6.9	5.2	12
26	7.1	9.9	937	3420	130	35	76	15	6.5	7.4	4.1	11
27	6.5	8.7	1900	1690	138	33	69	13	6.7	5.7	3.6	11
28	6.5	8.3	1060	1100	134	34	38	10	6.2	4.9	3.8	10
29	13	8.2	1420	818	---	33	21	8.7	6.2	4.6	3.8	9.7
30	81	7.6	2650	646	---	32	34	9.5	4.9	5.0	5.0	11
31	9.0	---	3230	540	---	37	---	11	---	5.2	4.7	---
TOTAL	1603.8	526.0	20145.8	43963	6213	2268	1132	562.4	287.7	160.2	177.3	243.0
MEAN	51.7	17.5	650	1418	222	73.2	37.7	18.1	9.59	5.17	5.72	8.10
MAX	384	125	3230	7650	480	190	98	66	27	7.4	16	16
MIN	2.3	4.8	9.8	172	130	32	16	8.7	4.9	2.5	3.6	2.4
AC-FT	3180	1040	39960	87200	12320	4500	2250	1120	571	318	352	482

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1997, BY WATER YEAR (WY)

MEAN	26.8	62.8	170	306	361	326	185	69.9	19.6	6.44	4.92	5.86
MAX	373	388	960	1418	1399	1162	888	301	107	23.2	14.2	19.1
(WY)	1963	1951	1956	1997	1986	1938	1982	1995	1942	1974	1969	1980
MIN	1.07	2.25	2.89	5.25	14.5	10.5	3.91	3.58	.48	.36	.33	.27
(WY)	1989	1940	1977	1991	1991	1977	1977	1981	1977	1940	1940	1937

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1936 - 1997	
ANNUAL TOTAL	84886.8		77282.2			
ANNUAL MEAN	232		212		128	
HIGHEST ANNUAL MEAN					327	1983
LOWEST ANNUAL MEAN					5.48	1977
HIGHEST DAILY MEAN	3230	Dec 31	7650	Jan 2	10200	Feb 17 1986
LOWEST DAILY MEAN	1.8	Sep 4	2.3	Oct 1	.06	Aug 5 1977
ANNUAL SEVEN-DAY MINIMUM	2.5	Sep 22	2.7	Oct 10	.16	Aug 3 1940
INSTANTANEOUS PEAK FLOW			11400	Jan 1	12100	Feb 17 1986
INSTANTANEOUS PEAK STAGE			13.68	Jan 1	14.05	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	168400		153300		92460	
10 PERCENT EXCEEDS	603		382		312	
50 PERCENT EXCEEDS	61		14		18	
90 PERCENT EXCEEDS	3.2		4.1		2.6	

11421000 YUBA RIVER NEAR MARYSVILLE, CA

LOCATION.--Lat 39°10'33", long 121°31'26", in New Helvetia Grant, Yuba County, Hydrologic Unit 18020107, on left bank 4.2 mi northeast of Marysville and 5 mi downstream from Dry Creek.

DRAINAGE AREA.--1,339 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year (prior to October 1943, low-water periods only). Published as "at Marysville" October 1940 to September 1957. Separate records published for two sites August 1954 to September 1955. Yearly discharge for the 1945 water year published in WSP 1315-A.

REVISED RECORDS.--WSP 1715: 1956(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.95 ft below sea level. Prior to August 1954 and Oct. 1, 1956, to Sept. 30, 1957, at Simpson Lane Bridge in Marysville 4.2 mi downstream at same datum. Sept. 3, 1963, to Sept. 23, 1968, auxiliary water-stage recorder at Simpson Lane Bridge at same datum.

REMARKS.--Records good. Flow regulated by New Bullards Bar Reservoir since January 1969, and several other reservoirs. Many diversions upstream from station for power and for irrigation. See schematic diagrams of Yuba and lower Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944, 1947-97), 180,000 ft^3/s, Dec. 22, 1964, gage height, 90.15 ft, from floodmarks, from rating curve extended above 91,000 ft^3/s on basis of U.S. Army Corps of Engineers flood-routing study, maximum gage height 91.64 ft, from floodmarks, Jan. 2, 1997; minimum recorded, 10 ft^3/s, July 2, 1959.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1600	1080	988	e100000	10500	4400	e2160	1220	459	291	1580	1660
2	1590	1090	999	e140000	10200	4360	e2150	1160	405	284	1610	1450
3	1620	1090	1110	e90200	9660	4280	e2140	1160	388	285	1620	1250
4	1640	1090	1140	61000	9230	4240	e2010	1140	425	295	1620	1050
5	1380	1090	2310	44800	8890	4220	e1600	1130	506	290	1720	856
6	1090	1100	3000	35100	8570	4190	e1470	1120	710	295	2040	686
7	1050	1100	3090	24600	8360	e4100	e1340	1130	565	326	2200	e584
8	1050	1090	3020	16600	7430	e4100	e1220	1070	444	468	2220	e594
9	1050	1080	3070	13900	7100	4080	e1160	852	406	667	2250	550
10	1060	1060	4960	11400	6770	4100	e1130	799	377	947	2270	542
11	1060	1060	4590	10600	5990	4030	e1090	787	360	1230	2290	517
12	1050	1050	8790	9840	5800	e3940	1050	777	346	1410	2220	508
13	1030	1040	7100	8850	5660	e3870	971	689	339	1440	1960	508
14	1030	1030	4760	7200	5210	e3340	892	649	340	1440	1800	518
15	1040	931	3910	5910	5030	3300	816	595	339	1440	1820	503
16	1040	928	2660	5840	5270	3280	628	608	337	1460	1830	481
17	995	956	3990	5530	5060	3350	627	695	332	1480	1830	468
18	987	1010	4070	5420	5220	3280	626	634	322	1480	1860	461
19	980	989	4080	5360	4940	3270	711	585	315	1490	1890	459
20	1010	1010	4050	5600	4740	3260	2060	582	308	1490	1990	454
21	1230	993	4990	6040	4860	3260	2410	569	307	1480	2090	460
22	1280	1030	6590	16700	4810	3260	2400	556	301	1500	2200	452
23	1260	1250	4870	26100	4480	3250	2370	588	297	1510	2380	424
24	1180	1060	4390	15700	4430	3230	1620	606	296	1500	2430	411
25	969	1020	4240	23200	4560	3190	1560	594	286	1520	2460	397
26	954	1010	4760	29400	4550	3170	1490	595	287	1560	2350	371
27	961	1010	15100	22500	4220	3140	1450	595	297	1590	2360	360
28	976	993	24900	19400	4380	e3020	1410	591	300	1620	2350	358
29	1060	982	24100	18100	---	2290	1350	587	308	1600	2310	341
30	1180	975	31200	14500	---	2200	1320	583	302	1570	2120	343
31	1080	---	52300	12200	---	e2180	---	581	---	1570	1900	---
TOTAL	35482	31197	249127	811590	175920	109180	43231	23827	11004	35528	63570	18016
MEAN	1145	1040	8036	26180	6283	3522	1441	769	367	1146	2051	601
MAX	1640	1250	52300	140000	10500	4400	2410	1220	710	1620	2460	1660
MIN	954	928	988	5360	4220	2180	626	556	286	284	1580	341
AC-FT	70380	61880	494100	1610000	348900	216600	85750	47260	21830	70470	126100	35730

e Estimated.

11421000 YUBA RIVER NEAR MARYSVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1968, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	507	846	3323	3574	4555	3928	4965	5064	2610	514	218	240
MAX	6222	8586	18650	13160	12470	7321	10400	13750	8712	2669	551	458
(WY)	1963	1951	1965	1956	1958	1958	1952	1952	1952	1952	1967	1952
MIN	50.5	116	157	573	965	1360	2139	1264	265	30.5	35.3	47.9
(WY)	1962	1960	1960	1960	1948	1964	1961	1947	1959	1959	1959	1961

SUMMARY STATISTICS	WATER YEARS 1944 - 1968	
ANNUAL MEAN	2518	
HIGHEST ANNUAL MEAN	5393	1952
LOWEST ANNUAL MEAN	882	1961
HIGHEST DAILY MEAN	136000	Dec 23 1955
LOWEST DAILY MEAN	15	Nov 7 1959
ANNUAL SEVEN-DAY MINIMUM	15	Nov 5 1959
INSTANTANEOUS PEAK FLOW	180000	Dec 22 1964
INSTANTANEOUS PEAK STAGE	90.15	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	1824000	
10 PERCENT EXCEEDS	6450	
50 PERCENT EXCEEDS	822	
90 PERCENT EXCEEDS	108	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1159	1466	2568	4492	4355	4408	2879	2267	1818	1238	1427	1351
MAX	2731	4475	11430	26180	20970	15100	14280	9721	8633	3735	2829	2900
(WY)	1976	1984	1984	1997	1986	1983	1982	1995	1983	1983	1984	1980
MIN	132	183	371	230	211	188	173	166	155	88.4	71.7	85.8
(WY)	1970	1970	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1970 - 1997	
ANNUAL TOTAL	1489264		1607672			
ANNUAL MEAN	4069		4405		2444	
HIGHEST ANNUAL MEAN					5818	1982
LOWEST ANNUAL MEAN					229	1977
HIGHEST DAILY MEAN	52300	Dec 31	140000	Jan 2	140000	Jan 2 1997
LOWEST DAILY MEAN	483	Sep 27	284	Jul 2	62	Jul 19 1977
ANNUAL SEVEN-DAY MINIMUM	503	Sep 21	292	Jun 30	65	Jul 31 1977
INSTANTANEOUS PEAK FLOW			151000	Jan 2	151000	Jan 2 1997
INSTANTANEOUS PEAK STAGE			91.64	Jan 2	91.64	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	2954000		3189000		1771000	
10 PERCENT EXCEEDS	7390		7800		5020	
50 PERCENT EXCEEDS	2080		1450		1280	
90 PERCENT EXCEEDS	982		406		307	

11421000 YUBA RIVER NEAR MARYSVILLE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-52, 1973-80, 1990 to current year. Published as Yuba River at Marysville (station 11421500) during water years 1966, 1973-76.
CHEMICAL DATA: Water years 1951-52, 1973-80, 1996. Published as Yuba River at Marysville (station 11421500) water years 1966, 1973-76
WATER TEMPERATURE: Water years 1973-78, 1990 to current year.
SEDIMENT DATA: 1996 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1972 to September 1978, October 1989 to current year.

INSTRUMENTATION.--Temperature recorder November 1972 to September 1978, October 1989 to current year.

REMARKS.--Water temperatures can be affected by releases from Englebright Reservoir located approximately 13 mi upstream from station. Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.5°C, July 16, 30, 1977, Aug. 11, 1992; minimum recorded, 4.5°C, Dec. 22, 23, 29-31, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 24.0°C, several days in June and July; minimum recorded, 7.0°C, Feb. 28, Mar. 4.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.5	13.5	13.5	11.0	12.0	10.5	10.5	9.5	---	---	9.5	7.5
2	16.5	13.5	13.5	11.0	11.0	9.5	9.5	9.0	---	---	9.5	7.5
3	16.5	13.5	13.5	11.0	11.5	9.5	9.5	9.0	---	---	9.5	7.5
4	16.5	13.5	12.5	11.5	10.5	10.0	---	---	---	---	10.0	7.0
5	17.0	13.0	12.5	11.0	11.0	10.0	---	---	---	---	10.0	7.5
6	17.5	13.5	13.0	10.5	11.0	10.0	---	---	---	---	10.0	7.5
7	17.0	13.5	13.0	10.5	10.5	10.0	---	---	---	---	10.0	7.5
8	17.0	13.5	13.0	10.5	11.0	10.5	---	---	---	---	10.5	7.5
9	17.0	13.5	13.0	11.0	10.5	10.5	---	---	---	---	10.5	7.5
10	16.5	13.5	13.5	11.0	11.0	10.5	---	---	---	---	11.0	8.0
11	16.5	13.0	13.5	11.0	11.5	10.5	---	---	---	---	10.0	8.0
12	16.5	13.0	13.0	11.0	11.0	10.5	---	---	---	---	10.5	8.0
13	16.0	13.0	13.5	11.0	11.5	10.0	---	---	---	---	10.5	8.0
14	16.0	12.5	12.5	11.0	11.0	9.5	---	---	9.5	---	11.0	8.0
15	16.0	12.5	12.5	10.5	11.0	9.5	---	---	9.5	7.5	11.0	8.5
16	14.5	12.0	11.5	10.5	11.0	9.5	---	---	9.0	8.0	9.0	8.5
17	15.0	11.5	12.5	11.0	10.5	9.5	---	---	9.5	8.0	11.5	9.0
18	14.0	12.0	13.5	12.5	10.0	9.0	---	---	9.5	7.5	12.0	8.5
19	14.5	12.0	12.5	12.0	9.5	9.0	---	---	9.0	8.0	11.0	9.0
20	14.0	11.0	12.5	12.0	9.0	9.0	---	---	10.0	7.5	11.5	9.5
21	14.5	11.5	12.5	12.0	9.0	8.5	---	---	9.5	7.5	11.5	10.0
22	14.5	11.5	13.0	12.0	9.5	8.5	---	---	10.0	7.5	12.0	9.5
23	14.5	12.0	13.5	12.0	10.0	8.5	---	---	9.5	7.5	12.5	9.5
24	13.5	12.5	13.0	12.0	9.5	8.5	---	---	10.0	7.5	13.0	9.5
25	13.0	11.5	13.0	11.5	9.5	8.5	---	---	9.5	7.5	13.0	9.5
26	13.5	11.0	13.0	11.0	9.0	8.5	---	---	9.5	7.5	13.5	10.0
27	14.0	11.0	12.5	10.5	9.5	9.0	---	---	9.5	7.5	13.0	9.5
28	13.5	11.5	12.0	11.0	9.5	9.0	---	---	9.5	7.0	13.0	9.5
29	12.5	11.5	12.0	10.0	10.0	9.5	---	---	---	---	13.5	9.5
30	13.5	11.5	11.5	10.0	10.5	10.0	---	---	---	---	13.0	10.0
31	13.5	12.0	---	---	10.5	10.5	---	---	---	---	13.0	9.5
MONTH	17.5	11.0	13.5	10.0	12.0	8.5	---	---	---	---	13.5	7.0

11421000 YUBA RIVER NEAR MARYSVILLE, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	9.0	16.0	11.0	21.5	16.5	23.0	17.5	17.5	12.0	16.5	12.0
2	13.5	9.5	15.5	11.5	21.0	17.0	23.0	17.5	17.5	12.0	16.5	12.5
3	13.5	9.5	17.0	11.5	19.0	17.0	24.0	18.5	17.5	12.0	18.0	12.5
4	13.5	9.5	17.0	11.5	21.0	16.5	24.0	18.5	17.5	12.0	18.5	13.0
5	---	9.0	17.0	11.5	21.5	16.0	23.5	18.0	17.0	12.0	18.5	13.5
6	---	---	17.5	12.0	21.5	15.5	24.0	18.5	17.0	12.0	18.5	13.5
7	---	---	17.5	12.0	22.0	16.5	24.0	19.0	16.5	12.0	18.5	14.0
8	14.5	10.0	18.0	12.5	22.5	17.5	22.5	17.5	16.5	12.0	18.0	14.0
9	14.0	9.5	18.5	13.0	22.5	17.5	22.0	16.5	16.5	12.0	19.0	14.5
10	14.5	9.5	19.0	13.0	23.0	18.0	20.5	16.0	16.0	11.5	19.0	14.5
11	14.5	9.5	19.5	13.5	22.0	17.5	20.0	15.0	16.5	11.5	19.0	14.5
12	14.5	10.0	19.5	13.5	22.5	17.5	19.5	14.5	16.5	11.5	19.0	14.5
13	15.0	10.5	---	---	21.5	17.0	19.5	14.5	16.5	11.5	19.0	14.5
14	15.5	11.0	---	---	23.0	17.5	19.5	14.5	16.5	11.5	17.0	15.0
15	16.5	11.0	20.0	14.5	23.5	18.0	19.5	14.0	17.0	12.0	18.5	14.0
16	---	11.0	20.5	15.0	24.0	18.5	17.5	14.0	17.0	11.5	18.5	14.0
17	---	---	21.0	15.0	23.5	18.5	19.0	14.0	16.5	11.5	18.0	14.0
18	---	---	21.0	15.5	24.0	18.5	19.0	13.5	16.5	11.5	19.0	15.0
19	15.0	13.0	21.0	15.5	24.0	19.0	19.0	13.5	14.5	11.5	18.5	14.5
20	15.0	12.0	20.5	15.5	23.5	18.5	18.5	13.5	15.0	12.5	19.0	14.5
21	15.0	12.5	20.5	15.5	23.5	18.0	18.5	13.5	16.5	11.5	19.0	14.5
22	14.0	12.5	18.5	15.5	23.0	17.5	18.5	13.5	16.5	12.0	19.0	15.0
23	15.5	12.5	19.0	15.5	23.0	18.0	17.0	13.0	14.5	11.5	19.5	15.0
24	16.0	11.5	20.5	15.5	23.5	18.0	15.5	13.0	16.0	11.5	19.5	15.5
25	16.5	11.5	20.5	15.5	24.0	18.5	18.0	13.0	16.0	11.5	20.0	16.0
26	16.5	12.0	19.5	15.5	23.0	19.0	18.0	12.5	16.0	11.5	20.0	16.0
27	16.0	12.0	21.5	16.5	23.0	17.5	17.5	12.5	16.5	11.5	19.0	15.5
28	14.0	12.0	21.0	16.5	22.0	17.0	17.5	12.5	16.0	11.5	19.0	15.0
29	16.0	11.5	21.5	16.5	22.5	17.5	17.5	12.5	16.0	11.5	19.5	15.5
30	15.5	11.5	22.0	16.5	22.0	17.0	17.5	12.5	16.0	11.5	19.5	16.0
31	---	---	21.0	16.5	---	---	17.5	12.0	16.5	12.0	---	---
MONTH	---	---	---	---	24.0	15.5	24.0	12.0	17.5	11.5	20.0	12.0

11421500 YUBA RIVER AT MARYSVILLE, CA

LOCATION.--Lat 39°08'40", long 121°34'35", 4.2 miles downstream from Yuba River near Marysville (station 11421000) gaging station, and approximately 2 miles upstream from mouth.

DRAINAGE AREA.--1,340 square miles, upstream from gaging station.

PERIOD OF RECORD.--Water years 1961-66, 1973-76, October 1995 to current year. Published as Yuba River near Marysville (station 11421000) water year 1996.

CHEMICAL DATA: Water years 1961-66, 1973-76, October 1995 to current year. Published as Yuba River near Marysville (station 11421000) water year 1996.

SEDIMENT DATA: October 1995 to current year. Published as Yuba River near Marysville (station 11421000) water year 1996.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1963-66, 1973-76.

INSTRUMENTATION.--None.

REMARKS.--Discharge data from 11421000, Yuba River near Marysville.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
08...	0930	1030	67	7.2	15.0	763	10.3	102	7.6	2.4
NOV										
06...	1030	1110	68	7.6	10.5	767	11.8	105	7.8	2.6
DEC										
19...	1230	4030	57	7.4	9.5	766	11.6	100	5.5	2.2
JAN										
27...	1230	22100	44	7.3	9.0	770	12.0	102	4.3	1.7
FEB										
14...	1230	5270	61	7.6	8.0	769	12.1	101	6.6	2.2
MAR										
14...	1030	--	68	7.6	8.5	763	11.8	101	7.5	2.5
APR										
17...	1120	632	98	7.3	14.0	763	10.2	99	9.7	4.1
MAY										
13...	1100	688	87	7.6	16.0	760	9.5	96	9.1	3.5
JUN										
18...	1020	322	105	7.4	21.5	759	8.0	91	11	4.5
JUL										
16...	1150	1450	73	7.6	15.5	761	10.2	102	7.9	2.5
AUG										
11...	1140	2290	69	7.4	13.5	762	10.4	100	7.8	2.5
SEP										
22...	1130	449	92	7.4	16.5	759	9.7	100	10	3.7

11421500 YUBA RIVER AT MARYSVILLE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
08...	2.0	13	.50	35	3.3	.80	<.10	12	46	48
NOV										
06...	2.0	12	.40	27	3.4	.80	<.10	12	50	48
DEC										
19...	1.9	15	.60	23	2.9	.90	<.10	11	39	40
JAN										
27...	1.5	15	.60	18	2.4	.70	<.10	10	36	34
FEB										
14...	1.8	13	.50	23	3.4	.90	<.10	11	43	44
MAR										
14...	2.2	14	.50	27	3.9	1.2	<.10	11	49	47
APR										
17...	2.8	13	.61	34	9.5	1.7	<.10	12	68	63
MAY										
13...	2.5	12	.53	32	7.3	1.4	<.10	12	52	58
JUN										
18...	3.0	12	.74	36	10	1.3	<.10	13	75	68
JUL										
16...	2.0	12	.53	28	4.3	.89	<.10	11	53	49
AUG										
11...	1.9	12	.49	26	2.4	.75	<.10	11	44	46
SEP										
22...	2.9	13	.64	32	6.5	1.3	<.10	12	62	62

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
08...	.06	<.010	<.050	<.020	<.20	<.20	<.010	<.010	<.010	6.0
NOV										
06...	.07	.010	<.050	.020	<.20	<.20	<.010	<.010	<.010	6.0
DEC										
19...	.05	<.010	.100	<.015	<.20	<.20	<.010	<.010	<.010	14
JAN										
27...	.05	<.010	.080	<.015	<.20	<.20	.100	<.010	<.010	32
FEB										
14...	.06	.010	.070	<.015	<.20	<.20	<.010	<.010	<.010	11
MAR										
14...	.07	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	9.0
APR										
17...	.09	--	--	--	--	--	--	--	--	7.4
MAY										
13...	.07	<.010	.055	<.015	<.20	<.20	.020	<.010	<.010	6.7
JUN										
18...	.10	<.010	.137	.068	<.20	<.20	<.010	<.010	.012	--
JUL										
16...	.07	<.010	.067	<.015	<.20	<.20	<.010	<.010	<.010	7.2
AUG										
11...	.06	<.010	<.050	.024	<.20	<.20	<.010	<.010	<.010	7.3
SEP										
22...	.08	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	5.9

11421500 YUBA RIVER AT MARYSVILLE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT 08...	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0	<1.0	12	<1.0
NOV 06...	<1.0	<1	10	<1.0	<1.0	<1.0	<1.0	<1.0	4.0	<1.0
DEC 19...	<1.0	<1	10	<1.0	<1.0	1.0	<1.0	1.0	23	<1.0
JAN 27...	<1.0	<1	8.0	<1.0	<1.0	<1.0	<1.0	<1.0	33	<1.0
FEB 14...	<1.0	<1	9.0	<1.0	<1.0	<1.0	<1.0	1.0	6.0	<1.0
MAR 14...	<1.0	<1	10	<1.0	<1.0	<1.0	<1.0	1.0	7.0	<1.0
APR 17...	<1.0	<1	18	<1.0	<1.0	<1.0	<1.0	2.4	15	<1.0
MAY 13...	<1.0	<1	15	<1.0	<1.0	<1.0	<1.0	<1.0	8.6	<1.0
JUN 18...	--	--	--	--	--	--	--	--	14	--
JUL 16...	<1.0	<1	12	<1.0	<1.0	<1.0	<1.0	<1.0	6.1	<1.0
AUG 11...	<1.0	<1	10	<1.0	<1.0	1.0	<1.0	<1.0	7.0	<1.0
SEP 22...	<1.0	<1	17	<1.0	<1.0	<1.0	<1.0	<1.0	19	<1.0

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT 08...	2.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	.90	.20
NOV 06...	2.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	.90	.20
DEC 19...	4.0	<1.0	2.0	<1	<1.0	2.0	<1.0	1.9	.50
JAN 27...	4.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	2.4	.80
FEB 14...	13	<1.0	<1.0	<1	<1.0	<1.0	<1.0	.90	.30
MAR 14...	15	<1.0	1.0	<1	<1.0	--	<1.0	.90	.20
APR 17...	48	<1.0	<1.0	<1	<1.0	<1.0	<1.0	.90	.20
MAY 13...	33	<1.0	<1.0	<1	<1.0	1.2	<1.0	.90	.10
JUN 18...	36	--	--	--	--	--	--	--	--
JUL 16...	7.4	<1.0	<1.0	<1	<1.0	<1.0	<1.0	.80	<.20
AUG 11...	5.8	<1.0	<1.0	<1	<1.0	<1.0	<1.0	.80	.50
SEP 22...	24	<1.0	<1.0	<1	<1.0	<1.0	<1.0	.80	<.20

11421500 YUBA RIVER AT MARYSVILLE, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
08...N	0930	1030	15.0	2	5.6
NOV					
06...N	1030	1110	10.5	1	3.0
DEC					
19...N	1230	4030	9.5	21	229
JAN					
27...N	1230	22100	9.0	153	9130
FEB					
14...N	1230	5270	8.0	95	1350
MAR					
14...N	1030	--	8.5	90	--
APR					
17...N	1120	632	14.0	4	6.8
MAY					
13...N	1100	688	16.0	--	--
JUN					
18...N	1020	322	21.5	4	3.5
JUL					
16...N	1150	1450	15.5	11	43
AUG					
11...N	1140	2290	13.5	14	87
SEP					
22...N	1130	449	16.5	1	1.2

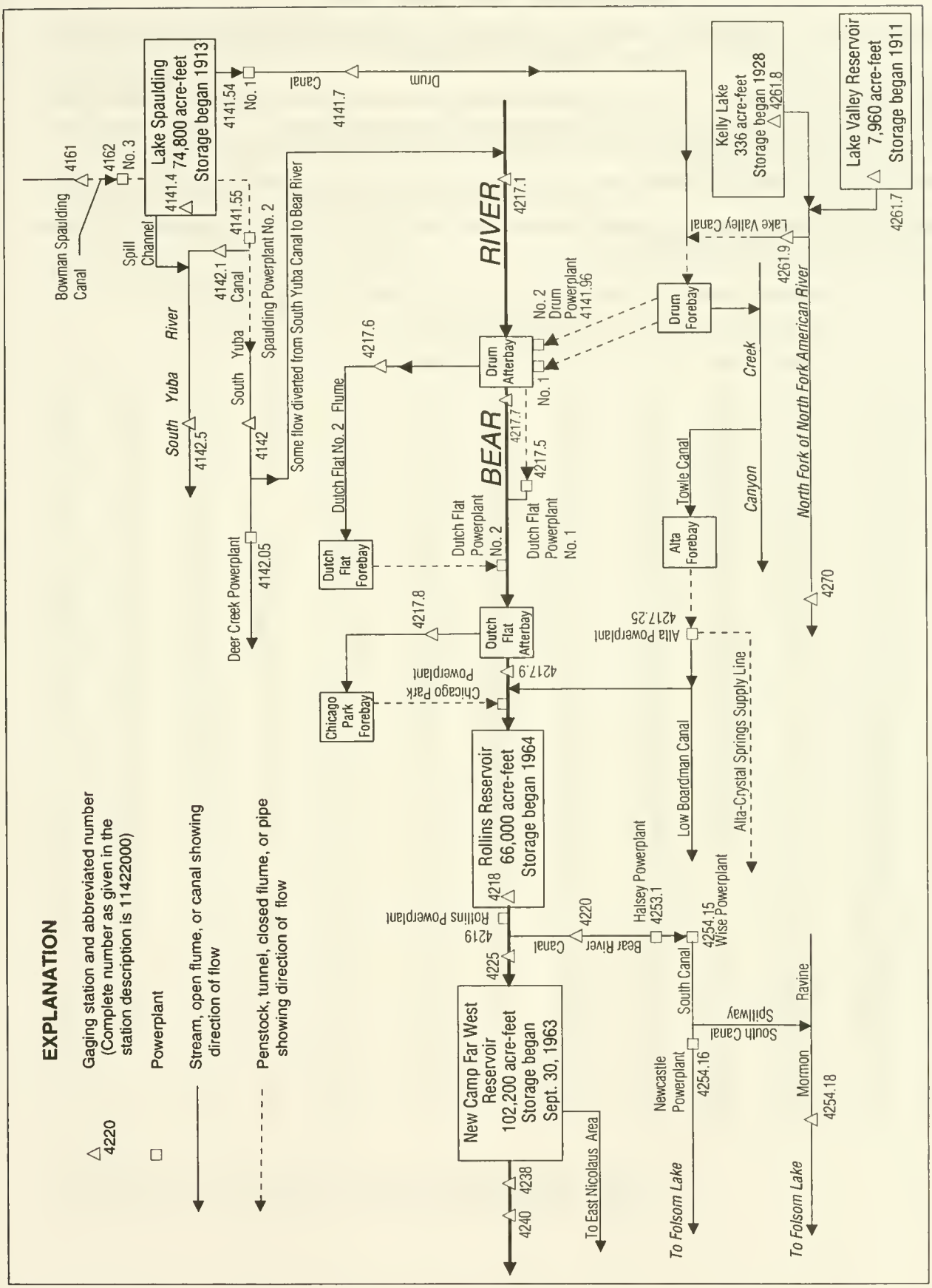

Figure 32. Diversions and storage in Bear River basin.

11421710 BEAR RIVER NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°18'23", long 120°40'41", in NW 1/4 SW 1/4 sec.30, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020126, on left bank 20 ft upstream from Highway 20 Bridge and 0.7 mi northwest of Emigrant Gap.

DRAINAGE AREA.--0.76 mi^2.

PERIOD OF RECORD.--October 1987 to current year (low-flow records only). Unpublished records for water years 1981-87 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete culvert. Elevation of gage is 4,550 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage at same site and datum.

REMARKS.--No records computed above 160 ft^3/s. Some water is diverted into stream from South Yuba Canal (station 11414200). See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	6.5	12	---	24	17	---	---	---	82	159	152
2	11	7.5	8.2	---	21	17	---	---	---	83	156	152
3	6.6	6.5	6.9	74	18	17	---	---	---	84	152	143
4	6.2	6.4	11	50	17	16	---	---	---	83	153	137
5	6.6	5.5	80	44	16	28	---	---	---	83	150	136
6	6.5	5.5	---	35	15	63	---	---	---	82	149	137
7	6.3	5.7	---	28	14	17	---	---	---	131	152	136
8	6.0	6.1	---	24	14	17	148	---	---	---	151	135
9	5.7	6.5	---	21	13	16	---	---	---	160	150	134
10	5.7	5.3	---	19	13	17	---	---	---	149	149	134
11	5.7	5.3	---	17	106	17	---	---	---	137	149	132
12	5.7	7.8	---	17	98	16	---	---	---	149	148	129
13	5.7	7.9	---	12	12	16	---	---	---	148	148	127
14	5.6	5.7	---	12	12	70	---	---	---	148	147	127
15	7.4	5.8	151	12	13	46	---	---	---	147	147	128
16	7.5	5.8	143	11	13	46	157	---	---	145	147	128
17	6.1	20	132	10	17	50	145	---	86	144	148	86
18	6.3	20	126	9.9	14	42	---	---	85	146	149	12
19	6.1	15	129	9.7	13	39	---	---	88	145	149	10
20	6.1	9.2	137	9.8	12	42	---	---	85	145	151	11
21	6.1	9.6	160	9.8	11	31	---	---	84	150	149	11
22	6.1	22	---	14	11	30	---	---	84	147	149	9.2
23	6.1	12	---	28	12	29	---	---	85	153	150	9.1
24	6.9	7.8	---	26	15	75	---	---	86	148	152	8.6
25	6.7	6.9	146	107	16	118	---	---	85	147	156	8.9
26	5.9	6.2	---	138	16	118	---	---	82	157	144	9.4
27	5.7	5.9	---	55	18	---	---	---	82	---	147	10
28	5.3	5.9	---	31	17	---	---	---	86	---	153	11
29	5.7	5.8	---	26	---	---	---	---	84	160	153	11
30	6.0	5.5	---	23	---	---	---	---	83	---	153	11
31	5.8	---	---	21	---	---	---	---	---	160	153	---
TOTAL	205.1	251.6	---	---	591	---	---	---	---	---	4663	2385.2
MEAN	6.62	8.39	---	---	21.1	---	---	---	---	---	150	79.5
MAX	16	22	---	---	106	---	---	---	---	---	159	152
MIN	5.3	5.3	---	---	11	---	---	---	---	---	144	8.6
AC-FT	407	499	---	---	1170	---	---	---	---	---	9250	4730

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'26", in SW 1/4 NW 1/4 sec.17, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 60 ft downstream from Drum Afterbay Dam and 3.5 mi west of Blue Canyon.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--April 1966 to current year, low flows only April to September 1966.

GAGE.--Water-stage recorder and 4-ft steel Cipolletti weir set in a concrete broad-crested weir. Elevation of gage is 3,300 ft above sea level, from topographic map. April 1966 to May 25, 1967, water-stage recorder at present site at different datum. May 26, 1967, to Feb. 11, 1968, water-stage recorder at site 1,000 ft downstream at different datum.

REMARKS.--Water for Dutch Flat No. 1 Powerplant (station 11421750) and Dutch Flat No. 2 Flume (station 11421760) is diverted from Drum Afterbay just upstream from station. See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,530 ft^3/s, Apr. 11, 1982, gage height, 4.64 ft, from rating curve extended above 1,200 ft^3/s; minimum daily, 1.0 ft^3/s, Dec. 9, 1967.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	5.4	5.3	e2510	e45	e33	182	207	e259	25	104	100
2	5.7	5.3	5.4	e1350	e43	e33	169	163	e259	24	101	107
3	5.7	5.3	5.3	e416	e38	e33	150	193	e258	25	95	101
4	5.7	5.3	5.3	e268	e35	e33	116	220	e264	23	95	87
5	5.6	5.3	5.3	e243	e33	e45	102	226	252	23	193	86
6	5.6	5.4	5.3	e170	e32	e70	102	422	247	23	491	87
7	5.6	5.3	5.3	e150	e30	e45	145	184	237	47	92	86
8	5.6	5.3	5.3	e130	e30	e30	147	206	228	88	92	84
9	5.5	5.3	5.2	e110	e29	e30	194	211	206	81	92	83
10	5.3	5.3	434	e100	e27	e30	193	215	230	70	92	82
11	5.0	5.3	446	e90	e150	e30	169	e296	259	80	91	80
12	5.0	5.3	333	e80	e135	e30	161	e297	236	58	105	78
13	5.0	5.3	100	e70	e25	e30	170	e296	224	59	105	77
14	5.2	5.3	5.2	e60	e27	e80	172	e300	225	51	103	76
15	5.4	5.3	5.2	e50	e30	e65	182	e320	219	65	103	77
16	5.3	5.3	5.3	e40	e32	e65	173	e330	159	66	102	72
17	5.3	5.1	5.2	e35	e40	e55	352	e329	32	64	103	48
18	5.4	5.1	5.2	e35	e35	e50	354	e321	29	66	106	21
19	5.3	5.2	5.4	e35	e33	e41	254	e280	31	65	109	11
20	5.4	5.3	5.3	e35	e30	43	238	e244	29	66	108	10
21	5.3	5.3	5.7	e35	e26	31	236	e278	27	69	105	18
22	5.2	5.3	6.5	e40	e25	46	201	e281	27	73	105	25
23	5.3	5.3	5.7	e100	e27	44	231	e264	28	79	111	18
24	5.3	5.3	5.3	e175	e32	81	148	e372	28	78	115	17
25	5.4	5.3	5.3	e225	e33	136	151	e276	29	83	110	12
26	5.4	5.3	209	e300	e33	134	157	e280	27	89	106	12
27	5.3	5.3	744	e225	e35	158	151	e277	24	102	103	13
28	5.3	5.3	217	e175	e35	174	179	e265	29	107	102	14
29	5.3	5.4	265	e100	---	175	203	e264	28	105	102	15
30	5.4	5.3	590	e50	---	175	210	e261	28	106	102	16
31	5.3	---	1140	e45	---	191	---	e260	---	106	101	---
TOTAL	167.2	158.8	4591.0	7447	1125	2216	5592	8338	4158	2066	3644	1613
MEAN	5.39	5.29	148	240	40.2	71.5	186	269	139	66.6	118	53.8
MAX	6.1	5.4	1140	2510	150	191	354	422	264	107	491	107
MIN	5.0	5.1	5.2	35	25	30	102	163	24	23	91	10
AC-FT	332	315	9110	14770	2230	4400	11090	16540	8250	4100	7230	3200
a	12950	18750	32770	1680	0	0	14430	35710	33720	35220	35360	20980
b	11740	14230	27130	1680	0	0	0	0	0	0	0	0

e Estimated.

a Diversion, in acre-feet, to Dutch Flat No. 2 Flume, provided by Nevada Irrigation District.

b Diversion, in acre-feet, to Dutch Flat No. 1 Powerplant, provided by Pacific Gas & Electric Co.

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.01	7.86	15.8	23.5	33.8	38.1	48.6	34.3	15.9	12.0	13.2	11.2
MAX	11.9	35.3	148	240	306	364	411	320	139	66.6	118	53.8
(WY)	1987	1984	1997	1997	1986	1986	1986	1982	1997	1997	1997	1997
MIN	2.68	2.58	2.44	5.13	4.03	2.47	2.49	2.50	2.43	2.56	2.45	2.77
(WY)	1978	1978	1978	1981	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	11023.0		41116.0			
ANNUAL MEAN	30.1		113		21.7	
HIGHEST ANNUAL MEAN					122	1986
LOWEST ANNUAL MEAN					3.54	1977
HIGHEST DAILY MEAN	1140	Dec 31	2510	Jan 1	2510	Jan 1 1997
LOWEST DAILY MEAN	5.0	Oct 11	5.0	Oct 11	1.0	Dec 9 1967
ANNUAL SEVEN-DAY MINIMUM	5.2	Oct 10	5.2	Oct 10	2.3	Aug 25 1977
INSTANTANEOUS PEAK FLOW			Unknown	Jan 2	7530	Apr 11 1982
INSTANTANEOUS PEAK STAGE			Unknown	Jan 2	4.64	Apr 11 1982
ANNUAL RUNOFF (AC-FT)	21860		81550		15720	
ANNUAL DIVERSION (AC-FT) a	313100		241600			
ANNUAL DIVERSION (AC-FT) b	209200		54770			
10 PERCENT EXCEEDS	37		260		12	
50 PERCENT EXCEEDS	11		66		7.0	
90 PERCENT EXCEEDS	5.3		5.3		5.2	

a Diversion, in acre-feet, to Dutch Flat No. 2 Flume, provided by Nevada Irrigation District.
b Diversion, in acre-feet, to Dutch Flat No. 1 Powerplant, provided by Pacific Gas & Electric Co.

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NE 1/4 NW 1/4 sec.34, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, at left bank downstream end of spillway on Dutch Flat Afterbay Dam, 0.6 mi north of Dutch Flat.

DRAINAGE AREA.--21.5 mi^2.

PERIOD OF RECORD.--December 1965 to current year.

REVISED RECORDS.--WDR CA-82-4: 1978, 1979(M), 1980.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,600 ft above sea level, from topographic map.

REMARKS.--Feb. 10 to Apr. 24 missing due to equipment malfunction. Water is imported from South Yuba River basin via Drum Canal above forebay. Chicago Park Flume (station 11421780) diverts upstream from station to Chicago Park Powerplant. Records include spill over Dutch Flat Afterbay Dam. See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,240 ft^3/s, Feb. 17, 1986; minimum daily, 0.08 ft^3/s, Mar. 8-19, 1968.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	9.9	7.0	2850	233	---	---	e13	13	13	13	13
2	12	7.1	7.0	2860	217	---	---	e13	13	13	13	13
3	12	7.1	7.0	185	169	---	---	e13	13	13	13	13
4	12	7.1	7.1	e5.0	166	---	---	e13	13	13	13	13
5	12	7.1	216	37	173	---	---	e13	13	13	13	13
6	12	7.1	25	408	135	---	---	e13	13	13	13	13
7	12	7.1	131	368	110	---	---	e13	13	13	13	13
8	12	7.1	79	260	127	---	---	e13	13	13	13	13
9	12	7.1	90	200	108	---	---	13	13	13	13	13
10	12	7.1	833	311	---	---	---	13	13	13	13	13
11	12	7.1	634	251	---	---	---	13	13	13	13	13
12	12	7.1	1030	265	---	---	---	13	13	13	13	13
13	12	7.0	497	311	---	---	---	13	13	13	13	13
14	12	7.0	242	283	---	---	---	13	13	13	13	13
15	12	7.0	187	274	---	---	---	13	13	13	13	13
16	12	7.1	26	166	---	---	---	13	13	13	13	13
17	12	7.1	72	204	---	---	---	13	13	13	13	13
18	12	7.0	51	204	---	---	---	13	13	13	13	12
19	12	7.0	6.9	169	---	---	---	13	13	13	13	12
20	12	7.0	7.0	173	---	---	---	13	13	13	13	12
21	12	7.0	7.4	302	---	---	---	13	13	13	13	12
22	12	7.1	7.2	467	---	---	---	13	13	13	13	12
23	12	7.1	87	815	---	---	---	13	13	13	13	12
24	12	7.1	13	398	---	---	---	13	13	13	13	12
25	12	7.0	6.9	947	---	---	e13	13	13	13	13	12
26	12	7.0	215	1540	---	---	e13	13	13	13	13	12
27	12	7.0	1350	774	---	---	e13	13	13	13	13	12
28	12	7.0	829	467	---	---	e13	13	13	13	13	12
29	12	7.0	841	358	---	---	e13	13	13	13	13	12
30	12	7.0	1350	306	---	---	e13	13	13	13	13	12
31	12	---	2000	300	---	---	---	13	---	13	13	---
TOTAL	373	214.5	10861.5	16458.0	---	---	---	403	390	403	403	377
MEAN	12.0	7.15	350	531	---	---	---	13.0	13.0	13.0	13.0	12.6
MAX	13	9.9	2000	2860	---	---	---	13	13	13	13	13
MIN	12	7.0	6.9	5.0	---	---	---	13	13	13	13	12
AC-FT	740	425	21540	32640	---	---	---	799	774	799	799	748
a	25400	35730	65320	8000	0	0	10660	53250	45030	43670	45550	26820

e Estimated.

a Diversion, in acre-feet, to Chicago Park Flume.

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.0	11.2	46.1	55.0	59.2	64.1	61.9	21.7	11.3	10.9	10.6	14.1
MAX	266	71.1	350	531	380	395	602	108	27.4	22.0	13.1	21.3
(WY)	1968	1984	1997	1997	1986	1966	1969	1995	1974	1970	1969	1983
MIN	4.81	2.65	2.42	4.94	4.10	4.26	3.94	5.30	5.13	5.00	5.00	5.00
(WY)	1978	1968	1968	1975	1974	1973	1973	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	27122.9					
ANNUAL MEAN	74.1				28.7	
HIGHEST ANNUAL MEAN					80.1	1982
LOWEST ANNUAL MEAN					5.53	1977
HIGHEST DAILY MEAN	2000	Dec 31			3400	Feb 17 1986
LOWEST DAILY MEAN	5.7	Jan 11			.08	Mar 8 1968
ANNUAL SEVEN-DAY MINIMUM	5.7	Jan 11			.08	Mar 8 1968
INSTANTANEOUS PEAK FLOW			4070	Jan 1	4240	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	53800				20760	
ANNUAL DIVERSION (AC-FT) a	563200		359400			
10 PERCENT EXCEEDS	188				22	
50 PERCENT EXCEEDS	12				9.4	
90 PERCENT EXCEEDS	5.9				5.0	

a Diversion, in acre-feet, to Chicago Park Flume.

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'08", long 120°56'57", in NE 1/4 SE 1/4 sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, on left bank 300 ft upstream from Rollins Dam on Bear River, 2.3 mi north of Colfax.

DRAINAGE AREA.--104 mi^2.

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 66,000 acre-ft between elevations 1,970.0 ft, invert of outlet tunnel, and 2,171.0 ft, spillway crest. Dead storage, 270 acre-ft. Several diversions into and out of basin upstream for power development and irrigation. Water is normally released through Rollins Powerplant (station 11421900). Part of the water then is diverted to Bear River Canal (station 11422000) for power development. Water is later used for irrigation. See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,700 acre-ft, Feb. 17, 1986, elevation, 2,177.7 ft; minimum since reservoir first filled, 4,250 acre-ft, Oct. 10, 1977, elevation, 2,022.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 71,300 acre-ft, Jan. 1, elevation, 2,177.23 ft; minimum, 42,700 acre-ft, Oct. 15, elevation, 2,138.16 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Nevada Irrigation District in 1964)

2,020	3,920	2,050	8,940	2,100	23,900	2,160	57,300
2,030	5,320	2,060	11,200	2,120	32,700	2,178	72,000
2,040	6,990	2,080	16,800	2,140	43,800		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46300	50700	58400	71300	66300	63300	65300	66200	66800	65300	64700	64700
2	45200	51100	58500	69300	66200	63400	65400	66200	66800	65400	64800	64700
3	44200	51500	58700	67900	65900	63500	65600	66400	66900	65400	64700	64500
4	43700	52100	59000	67200	65500	63500	65500	66500	66900	65400	64800	64600
5	43700	53000	64300	66800	65000	63500	65300	66500	66800	65500	64900	64600
6	43600	53900	66000	66700	64400	63600	65100	66600	66500	65500	64900	65000
7	43600	54700	66700	66500	64000	63700	65000	66500	66500	65400	64900	65300
8	43400	54900	66700	66300	64000	63700	64900	66200	66500	65500	65000	65300
9	43200	54400	66900	66000	63900	63800	64700	66400	66500	65500	65000	65200
10	43100	53900	68200	65700	64100	63800	64300	66500	66400	65400	65100	65100
11	43000	53600	67900	65100	64200	63800	63800	66600	66600	65300	65100	65100
12	43000	53600	67700	64600	64700	63700	63200	66700	66600	65200	65200	65000
13	42900	53600	67300	63900	64700	63600	62800	66700	66600	65100	65200	65100
14	42800	53600	67000	63200	64700	63400	62600	66600	66500	65100	65300	65300
15	42700	53500	66800	62600	64700	63300	62300	66600	66500	65100	65200	65500
16	42800	53000	66700	61600	64700	63100	62100	66800	66400	65000	65300	65600
17	42800	53100	66600	60700	64800	63000	62400	66600	66000	65000	65400	65700
18	43000	54300	66600	59800	64600	62900	63200	66800	65700	64900	65400	65900
19	42800	54500	66500	58700	64700	62800	64200	66600	65500	64800	65400	65000
20	43500	54800	66600	58000	64600	62600	64600	66600	65500	64700	65500	64000
21	44200	55000	67000	57700	64400	62500	64700	66500	65400	64600	65500	63000
22	44900	56000	67100	64400	64300	62600	64800	66500	65400	64500	65600	62000
23	45600	56800	66900	67400	64200	62700	64700	66700	65300	64200	65500	61000
24	46300	57000	66700	66900	64100	62800	65000	66700	65300	64200	65400	60000
25	46700	57400	66600	68300	64000	63100	65100	66700	65200	64200	65400	58900
26	46800	57400	68000	68100	63800	63400	65300	66800	65100	64200	65300	57900
27	47000	57600	68100	67400	63700	63700	65400	66800	65100	64300	65200	56800
28	47500	57700	67700	67000	63500	64100	65500	66800	65100	64400	65100	55800
29	48300	57900	68400	66800	---	64600	65700	66800	65000	64400	65000	54700
30	49200	58000	69000	66600	---	65000	66000	66800	65200	64500	64900	53700
31	49900	---	68600	66400	---	65100	---	66800	---	64600	64800	---
MAX	49900	58000	69000	71300	66300	65100	66000	66800	66900	65500	65600	65900
MIN	42700	50700	58400	57700	63500	62500	62100	66200	65000	64200	64700	53700
a	2149.56	2160.89	2174.08	2171.53	2167.89	2169.97	2170.95	2171.91	2170.02	2169.26	2169.61	2155.03
b	+2600	+8100	+10600	-2200	-2900	+1600	+900	+800	-1600	-600	+200	-11100
c	23090	31160	57550	62630	31240	14130	35620	60340	51350	46040	46200	38630

CAL YR 1996 MAX 69000 MIN 42700 b +13600 c 584100
WTR YR 1997 MAX 71300 MIN 42700 b +6400 c 498000

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Discharge, in acre-feet, through Rollins Powerplant, provided by Pacific Gas & Electric Co.

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA

LOCATION.--Lat 39°07'58", long 120°57'12", in SW 1/4 SE 1/4 sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, on right bank 400 ft downstream from canal inlet, 0.2 mi downstream from Rollins Dam, and 2.2 mi north of Colfax.

PERIOD OF RECORD.--January 1912 to September 1953, October 1964 to current year. Monthly discharge only for some periods published in WSP 1315-A. Prior to October 1912, published as Pacific Gas & Electric Co.'s Canal near Colfax; October 1912 to September 1953, published as Bear River Canal near Colfax.

GAGE.--Water-stage recorder. Elevation of gage is 1,950 ft above sea level, from topographic map. Prior to Mar. 25, 1946, water-stage recorder at site 1.5 mi downstream at different datum.

REMARKS.--Canal diverts from left bank of Bear River. Water is used to develop power at Halsey and Wise Powerplants (stations 11425310 and 11425415). Part of the water is distributed for irrigation, and the remainder is eventually spilled into North Fork American River. Capacity of canal is believed to have been increased in 1917 and 1931. See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 531 ft^3/s, Oct. 5, 6, 1980; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	1.4	442	238	88	294	237	433	441	439	449	441
2	454	1.4	439	237	87	250	162	430	440	440	448	440
3	454	1.4	441	244	87	250	134	432	441	441	448	440
4	457	1.4	442	243	86	252	140	431	440	441	447	439
5	457	1.4	358	243	86	250	158	431	440	442	447	438
6	457	1.4	355	265	85	250	158	438	439	442	447	437
7	455	1.4	415	302	163	251	158	444	439	443	449	436
8	456	289	414	317	205	250	158	443	438	444	454	435
9	455	427	415	329	206	250	349	442	438	445	453	432
10	455	441	374	331	259	250	358	442	437	446	453	432
11	455	440	395	331	309	250	357	441	437	448	452	432
12	455	440	397	333	319	250	357	446	437	450	452	431
13	455	440	393	335	320	250	357	456	438	452	451	424
14	455	440	393	335	320	250	357	449	438	453	451	431
15	454	440	407	331	320	250	357	449	438	455	444	431
16	453	439	416	335	320	250	357	448	438	457	438	431
17	453	429	438	335	320	250	383	448	439	457	437	430
18	453	391	449	334	322	250	398	447	440	456	436	431
19	453	394	450	335	325	249	397	447	440	456	436	428
20	114	420	447	334	325	249	397	446	439	456	435	426
21	104	419	295	334	325	197	397	446	440	455	435	424
22	110	419	295	224	325	157	396	445	440	455	442	422
23	111	435	366	4.8	324	157	395	444	440	454	445	420
24	110	442	407	4.5	322	115	420	444	440	453	445	424
25	109	443	408	4.7	323	88	435	443	440	451	444	427
26	127	443	350	4.9	323	89	434	443	440	451	444	427
27	51	442	238	5.0	323	89	433	442	440	450	443	427
28	1.4	442	237	17	323	89	433	442	440	450	443	426
29	1.4	442	239	44	---	89	433	442	441	450	442	425
30	1.4	442	240	68	---	90	434	442	440	449	442	423
31	1.4	---	240	87	---	244	---	441	---	449	441	---
TOTAL	9483.6	9808.8	11595	6884.9	7140	6449	9939	13717	13178	13930	13793	12910
MEAN	306	327	374	222	255	208	331	442	439	449	445	430
MAX	457	443	450	335	325	294	435	456	441	457	454	441
MIN	1.4	1.4	237	4.5	85	88	134	430	437	439	435	420
AC-FT	18810	19460	23000	13660	14160	12790	19710	27210	26140	27630	27360	25610
a	15160	16980	20750	12510	6970	2140	15340	24280	23150	23390	23780	22810
b	15470	18450	25330	18250	14520	13510	18510	25530	24030	23010	24790	23990

a Discharge, in acre-feet, to Halsey Powerplant, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Wise Powerplant, provided by Pacific Gas & Electric Co.

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 1931, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	184	158	156	124	139	154	200	253	253	250	251	235
MAX	300	285	281	257	265	257	286	278	300	317	300	300
(WY)	1929	1929	1925	1925	1925	1922	1925	1925	1927	1931	1926	1927
MIN	.000	.000	.000	.000	.000	.000	53.2	158	190	162	167	93.7
(WY)	1930	1930	1930	1930	1930	1930	1931	1931	1931	1918	1918	1924

SUMMARY STATISTICS	WATER YEARS 1918 - 1931	
ANNUAL MEAN	197	
HIGHEST ANNUAL MEAN	245	1929
LOWEST ANNUAL MEAN	121	1931
HIGHEST DAILY MEAN	345	Aug 2 1931
LOWEST DAILY MEAN	.00	Nov 12 1917
ANNUAL SEVEN-DAY MINIMUM	.00	Mar 17 1918
ANNUAL RUNOFF (AC-FT)	142400	
10 PERCENT EXCEEDS	300	
50 PERCENT EXCEEDS	232	
90 PERCENT EXCEEDS	.00	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	335	318	371	356	347	318	308	387	401	409	409	394
MAX	492	495	488	479	478	485	490	498	499	493	497	496
(WY)	1968	1968	1976	1979	1980	1980	1978	1978	1978	1967	1967	1967
MIN	69.8	27.9	52.7	8.65	27.8	18.5	18.4	106	139	143	136	114
(WY)	1978	1978	1977	1946	1946	1977	1940	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1932 - 1997	
ANNUAL TOTAL	130293.3		128828.3			
ANNUAL MEAN	356		353		363	
HIGHEST ANNUAL MEAN					462	1980
LOWEST ANNUAL MEAN					118	1977
HIGHEST DAILY MEAN	457	Oct 4	457	Oct 4	531	Oct 5 1980
LOWEST DAILY MEAN	1.4	Oct 28	1.4	Oct 28	.00	Mar 12 1932
ANNUAL SEVEN-DAY MINIMUM	1.4	Oct 28	1.4	Oct 28	.00	Mar 12 1932
ANNUAL RUNOFF (AC-FT)	258400		255500		263000	
ANNUAL TOTAL (AC-FT) a	220300		207300			
ANNUAL TOTAL (AC-FT) b	191700		245400			
10 PERCENT EXCEEDS	448		452		476	
50 PERCENT EXCEEDS	426		431		425	
90 PERCENT EXCEEDS	110		110		137	

a Discharge, in acre-feet, to Halsey Powerplant, provided by Pacific Gas & Electric Co.
b Discharge, in acre-feet, to Wise Powerplant, provided by Pacific Gas & Electric Co.

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA

LOCATION.--Lat 39°07'53", long 120°57'29", in SE 1/4 SW 1/4 sec.22, T.15 N., R.9 E., Nevada County, Hydrologic Unit 18020126, on right bank 20 ft upstream from new highway bridge, 0.5 mi downstream from Rollins Dam, and 2.2 mi north of Colfax.

DRAINAGE AREA.--105 mi^2.

PERIOD OF RECORD.--January 1912 to September 1913, October 1913 to July 1915 (gage heights and discharge measurements only), August 1915 to June 1917, November 1949 to September 1953, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to August 1964, published as Bear River near Colfax. Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,927.41 ft above sea level. Prior to Aug. 8, 1915, nonrecording gages at several sites above diversion dam 0.3 mi upstream at different datums. Aug. 8, 1915, to June 30, 1917, nonrecording gage 0.7 mi downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mi downstream at different datum. Aug. 17, 1964, to Feb. 4, 1986, at present site and datum. Feb. 5, 1986, to Mar. 19, 1987, at site 160 ft downstream at datum 8.00 ft lower.

REMARKS.--Flow regulated by Rollins Reservoir (station 11421800) beginning Dec. 15, 1964. Bear River Canal (station 11422000) diverts upstream from station. See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Nevada Irrigation District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (prior to construction of Rollins Dam in 1964), 9,620 ft^3/s, Nov. 20, 1950, gage height, 21.40 ft, site and datum then in use, from rating curve extended above 3,600 ft^3/s on basis of slope-area measurement of peak flow; no flow at times in 1912, 1952. Maximum discharge since construction of Rollins Dam, 34,300 ft^3/s, Jan. 2, 1997, gage height, 18.01 ft, maximum gage height, 20.62 ft, Feb. 17, 1986, site and datum then in use, from rating curve extended above 11,600 ft^3/s; minimum daily, 0.5 ft^3/s, Nov. 17, 1964.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	40	e430	17800	e1260	24	36	423	477	118	246	301
2	78	16	e431	22800	e1220	24	116	432	473	157	246	301
3	78	17	e448	e4740	e1130	24	147	440	477	194	247	301
4	79	17	e462	e2880	e1090	24	200	489	506	209	248	270
5	78	19	e544	e1830	e1120	22	249	523	647	217	248	178
6	78	20	e602	e1590	e1100	22	248	519	606	217	247	140
7	93	47	e1480	e1260	e693	22	248	464	508	255	244	128
8	115	34	e1450	e855	e302	22	247	431	470	279	239	223
9	116	e30	e1780	e729	e300	22	74	420	454	280	239	303
10	99	e25	e5580	e717	e118	22	79	429	431	281	239	304
11	88	e23	e4640	e613	e39	22	79	483	475	280	239	304
12	87	e21	e3910	e656	e33	22	78	496	495	280	239	267
13	87	e21	e2970	e582	21	22	80	588	532	279	239	203
14	86	e21	2110	e688	21	22	83	530	483	279	238	198
15	60	e21	1730	e557	21	22	83	489	466	279	244	200
16	45	e21	1420	e674	21	22	99	539	446	278	251	196
17	45	e21	1220	e656	21	22	125	483	410	299	251	197
18	45	e243	1080	e586	21	22	109	554	398	313	251	197
19	45	e470	994	e629	21	22	85	505	325	314	251	123
20	45	e450	896	e590	21	22	264	495	242	315	251	92
21	47	e431	984	e516	21	22	442	480	242	316	251	91
22	47	e433	1660	e689	21	21	444	453	241	316	264	91
23	47	e461	1820	e3440	20	21	429	473	241	317	303	91
24	46	e412	1640	e2350	22	22	408	489	240	297	304	94
25	45	e428	1370	e6300	24	23	408	495	229	247	303	93
26	45	e425	1150	e5900	24	24	379	503	235	247	303	92
27	55	e465	1170	e3590	24	24	409	509	234	247	303	92
28	68	e459	2700	e2710	24	24	406	491	233	246	299	92
29	69	e404	2390	e2080	---	24	416	489	233	248	295	91
30	74	e434	3920	e1730	---	24	414	479	157	246	299	91
31	75	---	7690	e1430	---	24	---	480	---	246	300	---
TOTAL	2144	5929	60671	92167	8753	701	6884	15073	11606	8096	8121	5344
MEAN	69.2	198	1957	2973	313	22.6	229	486	387	261	262	178
MAX	116	470	7690	22800	1260	24	444	588	647	317	304	304
MIN	45	16	430	516	20	21	36	420	157	118	238	91
AC-FT	4250	11760	120300	182800	17360	1390	13650	29900	23020	16060	16110	10600

e Estimated.

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1953, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	46.0	300	474	804	778	635	586	314	133	46.2	36.3	47.0
MAX	73.8	1016	1372	1103	1354	1110	1126	578	226	109	102	89.7
(WY)	1951	1951	1951	1951	1916	1916	1952	1952	1953	1916	1916	1916
MIN	12.7	19.8	58.4	287	201	127	151	165	35.1	.000	.000	.000
(WY)	1913	1953	1953	1913	1913	1913	1912	1916	1913	1913	1913	1913

SUMMARY STATISTICS	WATER YEARS 1912 - 1953	
ANNUAL MEAN	356	
HIGHEST ANNUAL MEAN	534	1951
LOWEST ANNUAL MEAN	126	1913
HIGHEST DAILY MEAN	5760	Nov 20 1950
LOWEST DAILY MEAN	.00	Jul 5 1912
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 11 1912
INSTANTANEOUS PEAK FLOW	9620	Nov 20 1950
INSTANTANEOUS PEAK STAGE	21.40	Nov 20 1950
ANNUAL RUNOFF (AC-FT)	258000	
10 PERCENT EXCEEDS	879	
50 PERCENT EXCEEDS	138	
90 PERCENT EXCEEDS	1.0	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

MEAN	110	199	372	642	654	725	633	484	336	243	198	150
MAX	282	1267	1957	2973	2889	2324	2516	1211	728	538	420	383
(WY)	1984	1984	1997	1997	1986	1983	1982	1995	1995	1983	1995	1983
MIN	21.3	10.3	6.53	6.67	5.14	4.56	16.6	21.8	15.2	22.8	34.3	34.4
(WY)	1978	1978	1978	1977	1977	1977	1976	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	299404		225489			
ANNUAL MEAN	818		618		394	
HIGHEST ANNUAL MEAN					972	1983
LOWEST ANNUAL MEAN					19.0	1977
HIGHEST DAILY MEAN	7690	Dec 31	22800	Jan 2	22800	Jan 2 1997
LOWEST DAILY MEAN	16	Nov 2	16	Nov 2	3.6	Dec 26 1977
ANNUAL SEVEN-DAY MINIMUM	21	Nov 11	21	Feb 17	4.4	Mar 23 1977
INSTANTANEOUS PEAK FLOW			34300	Jan 2	34300	Jan 2 1997
INSTANTANEOUS PEAK STAGE			18.01	Jan 2	20.62	Feb 17 1986
ANNUAL RUNOFF (AC-FT)	593900		447300		285400	
10 PERCENT EXCEEDS	1760		1220		943	
50 PERCENT EXCEEDS	482		251		134	
90 PERCENT EXCEEDS	47		22		22	

11423800 BEAR RIVER FISH RELEASE BELOW NEW CAMP FAR WEST RESERVOIR, NEAR WHEATLAND, CA

LOCATION.--Lat 39°02'30", long 121°19'52", in NE 1/4 NW 1/4 sec.29, T.14 N., R.6 E., Placer County, Hydrologic Unit 18020108, on left bank 5.4 mi northeast of Wheatland and 1.2 mi downstream from New Camp Far West Reservoir.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 120 ft above sea level, from topographic map.

REMARKS.--The gage measures required fish-release flow and is entirely regulated by New Camp Far West Reservoir. See schematic diagrams of Bear River basin and lower Sacramento River basin.

COOPERATION.--Records provided by South Sutter Water District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft^3/s, Dec. 4, 1994; minimum daily, 8.0 ft^3/s, July 2, 1995.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	12	e20	13	13	28	27	28	12	11	11
2	12	11	12	e20	12	13	27	27	27	12	11	11
3	12	11	12	18	12	13	27	27	27	11	11	11
4	12	11	13	13	12	13	26	28	27	11	11	11
5	11	11	14	13	12	13	28	27	27	11	11	11
6	11	11	15	12	12	13	31	27	27	11	11	11
7	11	11	14	12	12	14	32	27	27	11	11	11
8	11	11	13	12	11	14	33	27	27	11	11	11
9	11	11	14	12	11	14	31	27	27	11	11	11
10	11	11	14	12	12	14	27	27	28	11	11	11
11	11	11	13	11	12	14	27	27	28	11	11	11
12	11	11	13	11	12	13	27	28	28	11	11	11
13	11	12	15	12	10	13	27	28	27	11	11	11
14	11	11	15	12	10	13	27	28	27	11	11	11
15	11	11	15	12	14	14	27	28	27	11	11	11
16	12	11	14	12	14	14	27	27	27	11	11	11
17	12	12	13	12	14	14	27	27	28	11	11	11
18	12	12	13	12	13	14	27	28	28	11	11	11
19	12	12	13	12	13	14	27	28	28	11	11	11
20	12	12	13	12	12	14	27	27	27	11	11	11
21	23	12	14	12	12	14	27	27	27	11	11	11
22	22	12	15	15	12	14	27	27	27	9.8	11	11
23	20	12	15	17	11	14	27	27	27	10	11	11
24	20	12	15	14	11	14	28	27	27	11	11	11
25	17	12	14	15	11	14	28	27	27	11	11	11
26	14	12	14	18	11	15	28	27	27	11	11	11
27	12	12	17	15	11	15	28	28	27	11	11	11
28	12	12	16	14	13	14	27	28	27	11	11	11
29	12	12	15	13	---	13	27	28	27	11	11	12
30	11	12	17	13	---	13	27	28	27	11	11	12
31	12	---	18	13	---	17	---	28	---	11	11	---
TOTAL	404	345	440	421	335	428	834	849	817	340.8	341	332
MEAN	13.0	11.5	14.2	13.6	12.0	13.8	27.8	27.4	27.2	11.0	11.0	11.1
MAX	23	12	18	20	14	17	33	28	28	12	11	12
MIN	11	11	12	11	10	13	26	27	27	9.8	11	11
AC-FT	801	684	873	835	664	849	1650	1680	1620	676	676	659

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

MEAN	12.4	12.6	12.8	13.6	13.2	14.1	28.1	28.1	27.9	11.4	11.3	11.3
MAX	13.4	18.0	16.4	21.7	18.7	21.7	32.0	30.5	30.1	12.9	13.0	13.0
(WY)	1996	1996	1996	1995	1995	1995	1995	1995	1995	1995	1995	1995
MIN	11.0	11.0	11.0	10.9	11.0	11.2	26.5	25.9	25.8	11.0	10.8	10.8
(WY)	1991	1991	1991	1991	1991	1991	1990	1990	1990	1997	1990	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1990 - 1997	
ANNUAL TOTAL	6359		5886.8			
ANNUAL MEAN	17.4		16.1		16.4	
HIGHEST ANNUAL MEAN					19.5	1995
LOWEST ANNUAL MEAN					15.0	1991
HIGHEST DAILY MEAN	36	May 18	33	Apr 8	43	Dec 4 1994
LOWEST DAILY MEAN	11	Jul 2	9.8	Jul 22	8.0	Jul 2 1995
ANNUAL SEVEN-DAY MINIMUM	11	Jul 2	11	Jul 17	10	Sep 1 1990
ANNUAL RUNOFF (AC-FT)	12610		11680		11870	
10 PERCENT EXCEEDS	30		27		28	
50 PERCENT EXCEEDS	14		12		12	
90 PERCENT EXCEEDS	11		11		11	

e Estimated.

11424000 BEAR RIVER NEAR WHEATLAND, CA

LOCATION.--Lat 39°00'00", long 121°24'20", in SE 1/4 SW 1/4 sec.3, T.13 N., R.5 E., Placer County, Hydrologic Unit 18020108, on right bank 200 ft downstream from bridge on State Highway 65, 1 mi southeast of Wheatland, and 6.5 mi downstream from New Camp Far West Reservoir.

DRAINAGE AREA.--292 mi^2.

PERIOD OF RECORD.--October 1928 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.92 ft above sea level. See WSP 2131 for history of changes prior to May 28, 1970.

REMARKS.--Records good except for estimated daily discharges, Feb. 19-28, which are fair. Natural flow of stream affected by inflow from Yuba and American River basins. Flow regulated by Lake Combie, usable capacity, 7,840 acre-ft, since 1928; Rollins Reservoir (station 11421800), since December 1964; and New Camp Far West Reservoir, usable capacity, 102,200 acre-ft, since October 1963. Many diversions for irrigation and power. See schematic diagrams of Bear and lower Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft^3/s, Feb. 17, 1986, gage height, 21.60 ft, maximum gage height, 23.72 ft, Jan. 2, 1997 (backwater from Feather River); no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	14	16	13400	1170	16	27	29	68	24	19	15
2	20	13	16	28100	1080	16	27	30	50	18	20	14
3	19	13	15	8760	881	14	27	31	38	18	14	13
4	18	14	16	4200	810	15	27	31	46	20	13	13
5	20	14	20	2810	779	15	28	32	40	20	12	12
6	20	14	17	1580	746	15	62	32	41	20	15	15
7	20	14	18	e1360	714	16	111	32	45	20	18	19
8	21	14	17	e1190	626	15	116	33	42	20	12	15
9	21	14	17	e1080	504	15	83	35	32	21	12	12
10	15	14	153	e1000	463	15	82	35	27	19	12	13
11	15	14	599	e930	457	15	46	33	28	19	13	12
12	15	13	3630	e880	455	15	27	33	29	19	13	12
13	15	14	4480	e840	453	15	29	32	28	19	13	12
14	15	15	3010	e810	452	15	27	31	26	20	13	13
15	15	15	2140	e780	451	15	26	30	29	18	14	14
16	15	15	1730	e760	451	17	25	29	28	19	14	13
17	15	16	1390	751	451	17	25	29	27	20	16	13
18	18	17	1210	745	283	20	25	30	28	21	15	13
19	19	16	1100	740	e198	41	25	31	27	19	12	12
20	18	16	980	750	e24	51	26	29	28	22	15	12
21	21	15	1850	826	e16	52	26	28	28	23	17	13
22	23	17	4880	3750	e16	53	26	28	27	22	16	14
23	21	16	3680	12600	e15	53	24	31	29	22	16	14
24	18	16	2280	4130	e15	59	43	33	29	23	15	15
25	18	15	1680	4400	e15	57	89	33	29	21	14	15
26	16	15	1500	11500	e15	216	71	32	29	21	17	15
27	15	15	9580	6180	e15	305	66	29	27	22	17	15
28	14	15	6910	2970	e15	27	44	55	27	21	16	15
29	17	15	3820	1970	---	21	30	106	27	21	15	18
30	16	15	6170	1520	---	20	29	88	27	20	14	17
31	14	---	e10000	1260	---	20	---	82	---	19	14	---
TOTAL	547	443	72924	122572	11570	1256	1319	1172	986	631	456	418
MEAN	17.6	14.8	2352	3954	413	40.5	44.0	37.8	32.9	20.4	14.7	13.9
MAX	23	17	10000	28100	1170	305	116	106	68	24	20	19
MIN	14	13	15	740	15	14	24	28	26	18	12	12
AC-FT	1080	879	144600	243100	22950	2490	2620	2320	1960	1250	904	829

e Estimated.

11424000 BEAR RIVER NEAR WHEATLAND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1963, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	92.8	184	565	826	1240	1033	770	306	79.0	12.6	16.7	18.4
MAX	1348	1980	3501	3004	3360	2918	2553	939	245	55.4	148	215
(WY)	1963	1951	1956	1956	1936	1938	1958	1942	1932	1952	1935	1935
MIN	2.05	9.14	21.3	68.0	156	192	11.3	.57	.71	.53	.65	.30
(WY)	1961	1960	1960	1947	1933	1933	1959	1959	1959	1959	1939	1939

SUMMARY STATISTICS	WATER YEARS 1930 - 1963	
ANNUAL MEAN	424	
HIGHEST ANNUAL MEAN	891	1951
LOWEST ANNUAL MEAN	70.0	1933
HIGHEST DAILY MEAN	22100	Dec 23 1955
LOWEST DAILY MEAN	.00	Sep 18 1939
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 18 1939
INSTANTANEOUS PEAK FLOW	33000	Dec 22 1955
INSTANTANEOUS PEAK STAGE	20.83	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	307500	
10 PERCENT EXCEEDS	1060	
50 PERCENT EXCEEDS	77	
90 PERCENT EXCEEDS	3.6	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.9	146	485	974	1128	1148	707	228	60.7	19.0	15.4	14.4
MAX	58.5	1606	2668	3954	5201	3845	3796	1035	328	72.6	29.5	36.9
(WY)	1972	1984	1984	1997	1986	1983	1982	1983	1995	1995	1967	1971
MIN	.002	.056	.000	.14	.62	1.07	.60	4.05	3.17	2.95	4.72	1.31
(WY)	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	305560		214294			
ANNUAL MEAN	835		587		408	
HIGHEST ANNUAL MEAN					1191	1983
LOWEST ANNUAL MEAN					3.42	1977
HIGHEST DAILY MEAN	10000	Dec 31	28100	Jan 2	35900	Feb 17 1986
LOWEST DAILY MEAN	13	Nov 2	12	Aug 5	.00	Oct 14 1976
ANNUAL SEVEN-DAY MINIMUM	14	Oct 31	13	Aug 8	.00	Oct 29 1976
INSTANTANEOUS PEAK FLOW			34900	Jan 2	48000	Feb 17 1986
INSTANTANEOUS PEAK STAGE			23.72	Jan 2	23.72	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	606100		425100		295800	
10 PERCENT EXCEEDS	2150		1180		1180	
50 PERCENT EXCEEDS	73		21		22	
90 PERCENT EXCEEDS	15		14		7.7	

11425000 FEATHER RIVER NEAR NICOLAUS, CA

LOCATION.--Lat 38°53'26", long 121°36'12", in SE 1/4 NE 1/4 sec. 14, T.12 N, R.3 E, Sutter County, Hydrologic Unit 18020106, on left bank 1.7 mi southwest of Nicolaus, 4.2 mi downstream from Bear River, and at mile 8.1.

DRAINAGE AREA.--5,921 mi^2.

PERIOD OF RECORD.-- Water years 1996 to current year.
CHEMICAL DATA: February 1996 to current year.
SEDIMENT DATA: February 1996 to current year.

REMARKS.--Site was relocated 1.7 downstream on September 20, 1973, where discharge data was recorded from June 1921 to December 1942 and April 1943 to September 1973 by the U.S. Geological Survey. The National Water-Quality Assessment (NAWQA) Program began monitoring this site for water-quality data in February 1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)
OCT												
07...	1040	87	7.6	18.5	763	9.0	96	8.1	3.2	3.5	18	.80
NOV												
05...	1030	85	7.7	11.0	766	10.2	92	8.3	3.5	3.5	17	1.2
DEC												
18...	1430	79	7.8	10.5	768	10.7	95	7.4	3.1	3.1	17	1.0
JAN												
28...	1000	56	7.5	9.5	759	11.2	99	5.0	2.3	2.1	16	1.0
FEB												
13...	1030	68	7.5	8.5	768	11.8	100	6.5	2.8	2.5	16	.90
MAR												
12...	1050	89	7.5	10.5	766	10.7	95	8.6	3.7	3.3	16	.80
APR												
15...	1100	122	7.9	18.0	765	10.4	109	11	5.5	4.8	17	.91
MAY												
19...	1050	110	8.4	26.0	758	9.9	122	9.5	4.6	4.1	17	.93
JUN												
19...	1020	82	7.8	23.5	762	8.7	103	8.0	3.4	3.3	17	.90
JUL												
15...	1100	81	7.5	20.5	763	9.2	102	7.8	2.9	3.0	17	.82
AUG												
14...	1100	80	7.6	20.5	761	8.7	96	8.2	3.2	3.1	16	.83
SEP												
19...	1000	96	7.8	20.5	760	9.3	103	8.9	4.0	3.9	17	.97

DATE	ALKALINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT												
07...	34	2.8	2.0	<.10	12	60	56	.08	<.010	.060	<.015	<.20
NOV												
05...	35	3.2	2.0	<.10	13	62	59	.08	.020	.100	.030	<.20
DEC												
18...	36	2.3	1.3	<.10	12	51	52	.07	.010	.090	<.015	<.20
JAN												
28...	22	2.3	1.2	<.10	11	46	44	.06	.010	.130	.030	.30
FEB												
13...	28	2.3	1.2	<.10	12	50	48	.07	<.010	.080	<.015	<.20
MAR												
12...	33	4.3	2.4	<.10	12	59	59	.08	<.010	.100	<.015	<.20
APR												
15...	45	6.4	4.8	<.10	13	--	76	.19	<.010	.200	<.015	<.20
MAY												
19...	41	5.2	3.6	<.10	12	73	67	.10	<.010	<.050	<.015	<.20
JUN												
19...	35	2.5	1.4	<.10	14	57	57	.08	<.010	.086	<.015	<.20
JUL												
15...	33	2.4	1.1	<.10	13	55	54	.07	<.010	.073	.018	<.20
AUG												
14...	33	2.7	1.4	<.10	13	62	55	.08	<.010	.051	.040	<.20
SEP												
19...	38	2.9	2.1	<.10	13	64	69	.09	<.010	1.63	<.015	<.20

11425000 FEATHER RIVER NEAR NICOLAUS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)
OCT												
07...	<.20	.020	<.010	.010	6.0	<1.0	<1	14	<1.0	<1.0	<1.0	<1.0
NOV												
05...	<.20	.020	<.010	.010	5.0	<1.0	<1	14	<1.0	<1.0	<1.0	<1.0
DEC												
18...	<.20	.030	<.010	<.010	6.0	<1.0	<1	13	<1.0	<1.0	<1.0	<1.0
JAN												
28...	<.20	.070	<.010	<.010	34	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0
FEB												
13...	<.20	.030	<.010	<.010	10	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0
MAR												
12...	<.20	.020	<.010	<.010	9.0	<1.0	<1	13	<1.0	<1.0	<1.0	<1.0
APR												
15...	<.20	.020	<.010	<.010	7.8	<1.0	<1	18	<1.0	<1.0	<1.0	<1.0
MAY												
19...	<.20	.010	<.010	<.010	9.9	<1.0	<1	15	<1.0	<1.0	1.1	<1.0
JUN												
19...	<.20	<.010	<.010	.013	9.6	<1.0	<1	13	<1.0	<1.0	<1.0	<1.0
JUL												
15...	<.20	.024	<.010	.012	7.6	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0
AUG												
14...	<.20	.019	<.010	.012	7.7	<1.0	<1	12	<1.0	<1.0	<1.0	<1.0
SEP												
19...	<.20	.012	<.010	.010	8.3	<1.0	<1	15	<1.0	<1.0	1.0	<1.0

DATE	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT												
07...	<1.0	14	<1.0	2.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.3	.30
NOV												
05...	<1.0	37	<1.0	6.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.7	.30
DEC												
18...	<1.0	12	<1.0	2.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.9	.50
JAN												
28...	2.0	54	<1.0	5.0	<1.0	1.0	<1	<1.0	<1.0	<1.0	2.6	.50
FEB												
13...	2.0	11	<1.0	9.0	<1.0	1.0	<1	<1.0	<1.0	<1.0	1.5	.80
MAR												
12...	1.0	13	<1.0	14	<1.0	1.0	<1	<1.0	--	<1.0	--	--
APR												
15...	1.2	15	<1.0	11	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.4	.50
MAY												
19...	1.3	7.2	<1.0	1.1	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.5	.50
JUN												
19...	1.4	13	<1.0	1.2	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.5	.30
JUL												
15...	<1.0	6.6	<1.0	1.4	<1.0	<1.0	<1	<1.0	1.3	<1.0	1.2	.30
AUG												
14...	1.3	9.4	<1.0	1.4	<1.0	<1.0	<1	<1.0	1.2	<1.0	1.2	.30
SEP												
19...	1.6	15	<1.0	2.6	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.2	.20

11425000 FEATHER RIVER NEAR NICOLAUS, CA—Continued

SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)
OCT			
07...N	1040	18.5	8
NOV			
05...N	1030	11.0	10
DEC			
18...N	1430	10.5	23
JAN			
28...N	1000	9.5	123
FEB			
13...N	1030	8.5	72
MAR			
12...N	1050	10.5	61
APR			
15...N	1100	18.0	17
MAY			
19...N	1050	26.0	18
JUN			
19...N	1020	23.5	18
JUL			
15...N	1100	20.5	24
AUG			
14...N	1100	20.5	13
SEP			
19...N	1000	20.5	9

11425418 MORMON RAVINE NEAR NEWCASTLE, CA

LOCATION.--Lat 38°50'12", long 121°05'36", in SE 1/4 NW 1/4 sec.4, T.11 N., R.8 E., Placer County, Hydrologic Unit 18020128, on right bank 200 ft upstream from Folsom Lake, 700 ft north of Newcastle Powerplant, and 3.3 mi southeast of Newcastle.

DRAINAGE AREA.--3.84 mi^2.

PERIOD OF RECORD.--October 1989 to current year (low-flow records only).

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 500 ft above sea level, from topographic map.

REMARKS.--Records not computed above 8.5 ft^3/s. Low flow augmented by release from end of South Canal. Most of the water in South Canal is diverted to Newcastle Powerplant (station 11425416). See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	2.4	---	---	---	---	---	---	6.7	---	---	6.8
2	7.9	3.3	7.7	---	---	---	---	---	6.7	---	---	7.5
3	7.8	3.8	7.3	---	---	---	---	---	7.8	---	---	7.2
4	7.8	---	---	---	---	---	---	---	---	---	---	---
5	7.8	3.2	---	---	---	---	---	7.0	---	---	---	6.7
6	7.0	1.9	---	---	---	---	---	6.8	---	---	---	7.1
7	6.9	2.4	---	---	---	---	---	7.0	---	---	7.0	6.9
8	---	---	---	---	---	---	4.4	6.7	7.6	---	7.0	---
9	---	---	---	---	---	---	---	6.9	7.4	---	---	---
10	---	---	---	---	---	---	---	---	7.7	---	---	7.0
11	---	---	---	---	---	---	6.8	---	7.7	8.0	---	7.1
12	---	---	---	---	---	---	---	---	---	---	---	7.1
13	---	---	---	---	---	---	---	7.1	---	---	---	7.1
14	---	5.5	---	---	---	---	7.0	---	---	---	---	7.4
15	---	6.0	---	---	---	---	---	---	---	---	---	---
16	---	6.3	---	---	---	---	---	---	7.3	---	---	---
17	---	---	---	---	---	---	---	---	7.5	---	---	7.9
18	---	---	---	---	---	---	---	6.8	7.6	7.7	---	7.4
19	---	---	---	---	---	---	---	6.7	7.3	---	---	7.6
20	---	---	---	---	---	7.2	---	6.6	7.0	---	---	7.5
21	2.4	---	---	---	---	7.2	---	6.9	7.1	7.7	---	7.2
22	---	---	---	---	---	---	---	7.0	6.7	---	7.7	6.9
23	1.9	---	---	---	---	7.2	---	---	6.8	6.3	7.6	7.0
24	1.7	---	---	---	---	---	---	---	6.6	---	7.5	7.2
25	2.0	---	---	---	---	---	---	---	---	---	---	6.9
26	2.3	7.5	---	---	---	---	---	---	---	---	7.1	7.0
27	2.0	7.3	---	---	---	---	---	---	---	---	6.9	7.1
28	2.0	7.2	---	---	---	---	---	---	---	---	7.0	7.1
29	---	7.2	---	---	---	---	---	---	---	---	7.0	6.8
30	---	7.1	---	---	---	---	---	---	---	---	6.9	6.7
31	5.9	---	---	---	---	---	---	6.9	---	---	7.0	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---
a	7710	13380	18330	14460	11470	9410	9780	8870	6980	0	3390	11720

CAL YEAR 1996 a 112600
WTR YEAR 1997 a 115500

a Diversion, in acre-feet, to Newcastle Powerplant, provided by Pacific Gas & Electric Co.

11425500 SACRAMENTO RIVER AT VERONA, CA

LOCATION.--Lat 38°46'28", long 121°35'50", in SW 1/4 NW 1/4 sec.25, T.11 N., R.3 E., Sutter County, Hydrologic Unit 18020109, on left bank 1.3 mi southeast of Verona, 1.5 mi downstream from Feather River, 6.2 mi east of Knights Landing, and at mile 19.1 upstream from Sacramento.

DRAINAGE AREA.--21,251 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--May 1926 to September 1929 (low-water periods only), October 1929 to current year.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.00 ft below sea level. May 1926 to Sept. 30, 1987, at site 0.5 mi upstream at same datum.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 55,000 ft^3/s, flow begins over Fremont Weir, 3.5 mi upstream on right bank, into Yolo Bypass (station 11453000). See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft^3/s, Jan. 2, 1997, gage height, 42.09 ft; maximum gage height, Feb. 20, 1986, 42.11 ft, site then in use; minimum daily, 304 ft^3/s, July 23, 24, 1931.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11900	10800	11500	77500	68000	28800	13900	8660	11000	17500	18600	13900
2	11800	10500	11300	89200	67200	28500	14200	8620	10600	17700	18500	13700
3	11600	10600	11000	90200	66400	28200	14400	8260	10500	17800	18400	13900
4	11400	10400	11300	90000	65700	27600	13800	8400	10800	18000	18400	14000
5	11600	10200	14000	83200	64900	25900	13000	8310	11000	18000	18600	14200
6	11200	9910	19600	78100	64100	23600	12200	7990	12100	17800	19000	14200
7	10700	9820	25600	76400	63500	21400	11600	7520	12500	17800	19200	13900
8	10700	9850	25700	74900	62800	19600	11300	7590	11800	17800	19000	13800
9	10600	9850	25500	72800	62100	18800	11000	7550	11300	17700	18200	13800
10	10500	9760	31000	71000	61400	18400	10800	7430	10800	17800	17300	13500
11	10200	9830	41200	69400	60400	17800	10800	7490	11000	18200	16400	12800
12	9850	9900	49800	67700	59300	17200	10500	7750	11200	18500	15900	12300
13	9520	9990	60900	66300	57800	16900	10200	8190	11700	18600	15500	12000
14	9130	9730	63400	65300	54900	16400	9790	8540	12400	18700	15100	11400
15	8750	9620	63100	64600	50500	15800	9400	8650	13300	18800	14700	11100
16	8510	9680	62300	64000	45300	15600	9230	8610	14100	18800	14400	11000
17	8270	10000	60800	63300	40000	16200	8870	8540	15300	18800	14600	11900
18	8090	10500	58900	62600	36200	17600	8550	8260	15200	19000	14800	12100
19	8210	11300	57400	62100	34100	18700	8510	8550	14900	19100	14600	11700
20	8090	11900	55400	61500	32300	17800	9120	8470	14600	19100	14200	11200
21	8150	13000	52900	61100	31300	17000	11600	8530	14400	19400	14300	10900
22	8420	14600	53200	62000	31300	17500	12700	8990	14100	19600	15100	10400
23	8560	14800	54900	67500	30700	17100	12800	9760	13700	19500	15900	9870
24	8730	16200	54000	68600	29700	17300	12200	10800	13700	19400	16700	9660
25	8980	16100	50900	69000	29200	16900	11800	11900	13900	19500	17200	9740
26	8710	14500	46800	70800	29000	16700	11100	13000	13900	19200	17100	10400
27	8510	13200	48700	71600	28500	16800	9370	13300	14100	19100	16500	10500
28	8480	12500	60900	71200	28400	15900	8330	13300	14600	19000	15600	10400
29	8840	12000	66800	71000	---	15400	8370	12700	15700	18800	14800	11000
30	9610	11800	69300	70200	---	14800	8340	12200	17000	18500	14400	11300
31	10500	---	72400	69000	---	14500	---	11500	---	18600	14000	---
TOTAL	298110	342840	1390500	2202100	1355000	590700	327780	289360	391200	576100	507000	360570
MEAN	9616	11430	44850	71040	48390	19050	10930	9334	13040	18580	16350	12020
MAX	11900	16200	72400	90200	68000	28800	14400	13300	17000	19600	19200	14200
MIN	8090	9620	11000	61100	28400	14500	8330	7430	10500	17500	14000	9660
AC-FT	591300	680000	2758000	4368000	2688000	1172000	650200	573900	775900	1143000	1006000	715200

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1943, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5623	8493	17140	28130	33500	35320	34370	24600	12750	3943	2603	4242
MAX	7816	23510	41690	56930	57860	57700	55330	53730	33480	9176	5036	5895
(WY)	1939	1938	1938	1941	1942	1938	1938	1938	1938	1938	1938	1938
MIN	3462	3923	5968	7819	11730	13860	5932	3103	1872	497	846	2960
(WY)	1933	1933	1937	1937	1933	1931	1931	1931	1931	1931	1931	1934

SUMMARY STATISTICS	WATER YEARS 1930 - 1943	
ANNUAL MEAN	17470	
HIGHEST ANNUAL MEAN	31300	1938
LOWEST ANNUAL MEAN	6286	1931
HIGHEST DAILY MEAN	76900	Feb 8 1942
LOWEST DAILY MEAN	304	Jul 23 1931
ANNUAL SEVEN-DAY MINIMUM	313	Jul 18 1931
INSTANTANEOUS PEAK FLOW	79200	Mar 1 1940
INSTANTANEOUS PEAK STAGE	41.20	Mar 1 1940
ANNUAL RUNOFF (AC-FT)	12650000	
10 PERCENT EXCEEDS	50700	
50 PERCENT EXCEEDS	8620	
90 PERCENT EXCEEDS	2680	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10610	13960	22630	29870	33910	31480	24780	20060	14040	11380	11870	12640
MAX	24920	43300	64470	71040	67300	71340	62140	51600	38790	24550	21400	22110
(WY)	1963	1974	1984	1997	1983	1983	1982	1952	1983	1983	1983	1971
MIN	4725	5987	6586	8561	7591	6731	6188	5118	4858	4848	5385	6300
(WY)	1978	1993	1960	1991	1991	1977	1977	1992	1992	1947	1947	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1946 - 1997	
ANNUAL TOTAL	10212450		8631260			
ANNUAL MEAN	27900		23650		19700	
HIGHEST ANNUAL MEAN					39150	1983
LOWEST ANNUAL MEAN					7178	1977
HIGHEST DAILY MEAN	72400	Dec 31	90200	Jan 3	92300	Feb 20 1986
LOWEST DAILY MEAN	8090	Oct 18	7430	May 10	3590	Jun 24 1992
ANNUAL SEVEN-DAY MINIMUM	8250	Oct 16	7620	May 6	3960	Jun 22 1992
INSTANTANEOUS PEAK FLOW			94000	Jan 2	94000	Jan 2 1997
INSTANTANEOUS PEAK STAGE			42.09	Jan 2	42.11	Feb 20 1986
ANNUAL RUNOFF (AC-FT)	20260000		17120000		14270000	
10 PERCENT EXCEEDS	59200		63300		46400	
50 PERCENT EXCEEDS	18200		14600		13300	
90 PERCENT EXCEEDS	10500		8690		7410	

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1952, 1969-70, 1980, 1996 to current year.
CHEMICAL DATA: Water years 1952, 1969-70, 1996 to current year.
SPECIFIC CONDUCTANCE: Water year 1995 to current year.
WATER TEMPERATURE: Water year 1980, 1995 to current year.
SEDIMENT DATA: Water year 1980, 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1995 to current year.
WATER TEMPERATURE: October 1995 to curent year.

INSTRUMENTATION.--Water-quality monitor since October 1995.

REMARKS.--Interruption in record was due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 223 microsiemens, June 1, 1997; minimum recorded, 59 microsiemens, July 25, 1996.
WATER TEMPERATURE.--Maximum recorded, 24.5°C, May 18, 19, 1997; minimum recorded, 6.0°C, Jan. 14, 15, 1997.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 223 microsiemens, June 1; minimum recorded, 61 microsiemens, Jan. 27, 28.
WATER TEMPERATURE: Maximum recorded, 24.5°C, May 18, 19; minimum recorded, 6.0°C, Jan. 14, 15.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
07...	1300	10700	137	7.9	18.5	763	9.0	96	11	5.7
NOV										
13...	1030	9980	146	7.8	13.5	770	10.8	103	12	6.2
DEC										
18...	1100	58900	117	7.9	10.5	768	10.4	92	10	4.9
JAN										
28...	1230	71100	62	7.5	10.0	759	11.0	98	5.4	2.5
FEB										
13...	1310	57700	116	7.7	9.0	768	11.4	98	10	4.9
MAR										
12...	1400	17200	153	8.0	12.5	767	10.6	99	13	6.5
APR										
29...	1400	8340	161	8.0	18.5	763	7.6	81	14	6.7
MAY										
14...	1340	8590	146	8.1	22.5	762	9.1	105	12	6.0
JUN										
04...	1130	10900	138	7.9	20.0	763	8.2	90	11	6.1
JUL										
17...	1100	18900	128	7.8	19.5	760	8.9	97	--	--
AUG										
13...	1250	15500	155	7.8	20.5	764	8.7	96	12	6.5
SEP										
24...	1100	9650	148	7.8	19.5	755	9.1	100	13	6.3

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
07...	7.2	23	1.2	56	5.2	4.5	<.10	17	87	89
NOV										
13...	8.3	24	1.3	57	5.3	5.8	<.10	18	96	99
DEC										
18...	6.0	22	1.3	50	4.2	3.0	<.10	18	76	79
JAN										
28...	2.6	18	1.2	24	2.6	1.4	<.10	11	53	44
FEB										
13...	5.2	20	1.1	46	5.1	3.0	<.10	16	84	77
MAR										
12...	7.6	21	1.1	55	8.4	5.0	<.10	17	98	99
APR										
29...	7.6	21	1.2	63	8.4	5.1	<.10	18	100	102
MAY										
14...	7.6	23	1.1	57	6.1	5.2	<.10	18	101	93
JUN										
04...	7.4	23	1.1	54	5.9	4.4	<.10	18	97	91
JUL										
17...	--	--	--	50	--	--	--	--	--	--
AUG										
13...	9.2	26	1.1	62	6.4	3.9	<.10	18	104	98
SEP										
24...	8.1	23	1.4	58	4.0	4.3	<.10	21	100	97

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
07...	.12	<.010	.130	<.015	<.20	<.20	.040	.030	.020	4.0
NOV										
13...	.13	.030	.170	.050	<.20	<.20	.040	.040	.030	5.0
DEC										
18...	.10	.010	.130	<.015	<.20	<.20	.050	<.010	.020	6.0
JAN										
28...	.07	<.010	.140	.030	.40	<.20	.170	.110	.020	53
FEB										
13...	.11	<.010	.190	<.015	<.20	<.20	.070	<.010	<.010	8.0
MAR										
12...	.13	<.010	.210	<.015	.60	<.20	.030	<.010	.020	6.6
APR										
29...	.14	<.010	.232	<.015	.31	<.20	.060	.021	.020	6.3
MAY										
14...	.14	<.010	.076	<.015	.20	<.20	.053	.018	.017	7.2
JUN										
04...	.13	<.010	.120	<.015	<.20	<.20	.040	<.010	.029	6.5
JUL										
17...	--	<.010	.057	<.015	<.20	<.20	.027	.010	.022	6.6
AUG										
13...	.14	<.010	.086	.045	<.20	<.20	.060	.023	.029	6.5
SEP										
24...	.14	<.010	.113	.015	<.20	<.20	.044	.026	.026	8.6

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT 07...	<1.0	2	21	<1.0	<1.0	<1.0	<1.0	1.0	10	<1.0
NOV 13...	<1.0	2	22	<1.0	<1.0	1.0	<1.0	<1.0	25	<1.0
DEC 18...	<1.0	<1	19	<1.0	<1.0	<1.0	<1.0	1.0	10	<1.0
JAN 28...	<1.0	<1	14	<1.0	<1.0	<1.0	<1.0	2.0	75	<1.0
FEB 13...	<1.0	1	19	<1.0	<1.0	<1.0	<1.0	2.0	8.0	<1.0
MAR 12...	<1.0	<1	22	<1.0	<1.0	1.2	<1.0	2.3	5.0	<1.0
APR 29...	<1.0	2	23	<1.0	<1.0	<1.0	<1.0	1.2	12	<1.0
MAY 14...	<1.0	1	22	<1.0	<1.0	1.5	<1.0	2.0	9.7	<1.0
JUN 04...	<1.0	1	20	<1.0	<1.0	1.4	<1.0	1.5	7.3	<1.0
JUL 17...	<1.0	1	18	<1.0	<1.0	1.6	<1.0	1.0	--	<1.0
AUG 13...	<1.0	2	21	<1.0	<1.0	1.3	<1.0	1.9	4.7	<1.0
SEP 24...	<1.0	2	21	<1.0	<1.0	<1.0	<1.0	1.0	7.0	<1.0

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT 07...	4.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.4	.40
NOV 13...	10	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.9	.40
DEC 18...	4.0	<1.0	1.0	<1	<1.0	<1.0	<1.0	2.0	.40
JAN 28...	6.0	<1.0	1.0	<1	<1.0	<1.0	<1.0	2.6	--
FEB 13...	11	<1.0	1.0	<1	<1.0	1.0	<1.0	1.5	.90
MAR 12...	12	<1.0	1.8	<1	<1.0	--	<1.0	1.5	.30
APR 29...	9.5	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.6	--
MAY 14...	5.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.7	--
JUN 04...	1.5	<1.0	1.4	<1	<1.0	1.1	<1.0	--	--
JUL 17...	1.5	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.3	1.2
AUG 13...	2.7	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.6	.40
SEP 24...	3.1	<1.0	1.0	<1	<1.0	<1.0	<1.0	1.3	.50

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT					
07...N	1300	10700	18.5	48	1390
NOV					
13...N	1030	9980	13.5	24	647
DEC					
18...N	1100	58900	10.5	52	8270
JAN					
28...N	1230	71100	10.0	111	21300
FEB					
13...N	1310	57700	9.0	101	15700
MAR					
12...N	1400	17200	12.5	68	3160
APR					
29...N	1400	8340	18.5	50	1130
MAY					
14...N	1340	8590	22.5	--	--
JUN					
04...N	1130	10900	20.0	38	1120
JUL					
17...N	1100	18900	19.5	38	1940
AUG					
13...N	1250	15500	20.5	47	1970
SEP					
24...N	1100	9650	19.5	29	756

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	136	122	130	121	146	138	104	93	83	80	122	117
2	148	128	130	117	158	142	93	81	85	83	123	119
3	147	128	126	116	143	134	82	80	85	83	128	120
4	131	122	125	116	153	132	83	78	87	84	133	128
5	134	128	127	119	150	136	83	78	91	87	137	133
6	138	132	132	124	138	133	84	81	91	89	139	137
7	139	133	132	123	138	125	81	77	94	90	146	139
8	135	127	132	123	131	125	77	75	98	94	151	146
9	130	125	134	126	---	---	75	73	102	98	149	147
10	129	124	140	129	---	---	74	71	105	102	151	146
11	127	122	139	136	---	---	73	70	109	104	154	151
12	131	118	147	135	---	---	73	69	112	108	155	151
13	137	130	148	140	113	104	74	72	119	112	158	155
14	141	136	144	137	116	109	74	73	124	119	159	154
15	140	134	149	139	115	109	75	73	131	123	156	147
16	134	130	147	138	114	111	75	74	135	130	152	144
17	130	125	152	143	117	114	76	75	133	130	162	146
18	130	126	157	139	117	113	77	76	135	132	151	146
19	132	129	144	139	113	106	77	76	134	132	160	148
20	132	130	143	139	106	104	80	75	136	132	162	154
21	130	128	145	139	105	103	94	80	134	126	158	151
22	128	124	147	137	109	105	102	81	128	124	151	144
23	129	124	170	143	105	100	102	65	125	122	151	142
24	131	128	161	146	101	100	66	64	123	120	150	142
25	129	126	155	140	103	101	67	65	124	120	159	142
26	126	125	144	138	106	102	68	63	125	123	166	149
27	126	124	148	138	112	105	63	61	127	123	149	140
28	125	103	156	141	107	90	64	61	123	117	151	140
29	106	102	146	140	96	92	67	64	---	---	148	143
30	111	104	152	140	101	92	74	67	---	---	160	145
31	132	108	---	---	104	101	80	73	---	---	150	145
MONTH	148	102	170	116	158	90	104	61	136	80	166	117

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	145	136	168	157	223	206	142	130	137	134	217	175
2	140	135	166	156	220	181	136	123	140	137	176	165
3	149	139	162	157	181	151	146	130	141	138	180	172
4	154	144	165	156	152	138	135	122	144	140	197	171
5	148	143	169	155	176	148	131	121	147	144	209	197
6	152	144	163	149	182	166	138	122	146	144	219	197
7	164	152	161	149	216	181	122	116	145	142	213	197
8	174	162	166	147	218	186	120	115	147	143	213	193
9	188	169	170	149	186	173	119	115	149	146	214	191
10	186	176	182	152	188	171	116	114	148	146	210	197
11	180	175	175	152	171	161	117	114	149	146	199	183
12	180	173	174	154	188	170	118	114	154	148	183	159
13	189	178	182	150	194	187	121	116	155	130	179	155
14	187	179	161	144	193	187	124	120	130	102	169	139
15	183	174	155	142	198	189	125	121	128	110	156	133
16	188	178	174	141	195	179	125	122	119	111	150	128
17	189	181	194	156	193	130	128	124	125	109	156	142
18	189	182	176	151	138	117	129	125	131	112	157	140
19	186	183	171	146	137	117	129	125	138	105	156	150
20	186	176	171	141	150	122	130	128	116	106	158	144
21	177	157	150	122	147	125	131	129	131	111	150	143
22	157	150	144	110	152	139	132	130	140	112	153	147
23	157	152	131	96	159	148	134	131	131	108	153	149
24	154	149	124	95	160	152	137	131	131	110	150	148
25	156	151	119	86	161	151	134	132	131	115	158	150
26	163	154	140	98	164	152	138	134	152	117	164	158
27	162	154	134	99	153	131	138	136	156	115	164	160
28	161	155	120	97	135	123	139	135	173	123	160	151
29	166	158	144	115	127	115	140	138	197	144	151	137
30	167	161	176	144	130	118	140	136	209	197	138	132
31	---	---	206	176	---	---	137	134	214	203	---	---
MONTH	189	135	206	86	223	115	146	114	214	102	219	128

11425500 SACRAMENTO RIVER AT VERONA, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.5	18.0	13.0	12.0	11.0	10.5	12.0	11.5	9.0	9.0	9.0	8.5
2	19.0	18.0	13.0	12.0	11.0	10.0	12.0	10.5	9.0	9.0	9.5	8.5
3	19.0	17.5	13.0	12.0	10.5	9.5	11.5	11.0	9.0	8.5	9.5	9.0
4	19.0	18.0	12.5	12.0	10.5	9.5	11.0	10.0	9.0	8.5	9.5	8.5
5	19.0	18.0	12.5	12.0	10.5	10.0	10.5	9.5	9.0	8.5	9.5	8.5
6	19.5	18.0	12.5	11.0	10.5	10.0	9.5	8.5	9.0	8.5	10.0	8.5
7	19.5	18.5	12.5	11.0	10.5	10.5	8.5	8.5	9.0	8.5	11.0	9.5
8	19.5	18.5	12.5	11.5	11.0	10.5	8.5	8.0	9.0	9.0	11.5	10.0
9	19.5	18.5	13.0	12.0	11.0	10.5	8.5	8.0	9.0	9.0	12.0	10.0
10	19.0	17.5	13.0	12.0	11.5	11.0	8.5	8.0	9.5	9.0	12.5	10.5
11	18.0	17.0	13.5	12.5	12.0	11.0	8.0	8.0	9.5	9.0	12.5	11.0
12	18.0	16.5	14.0	13.0	11.5	11.5	8.0	7.5	9.0	9.0	12.5	11.5
13	17.5	16.5	14.5	13.5	12.0	11.5	7.5	6.5	9.0	8.5	12.5	11.5
14	17.5	16.5	14.5	13.5	12.0	11.0	6.5	6.0	9.0	8.5	12.5	11.0
15	17.0	16.0	13.5	13.0	11.0	10.5	6.5	6.0	9.5	9.0	13.0	11.5
16	16.5	15.0	13.5	12.0	11.0	10.5	7.0	6.5	10.0	9.0	13.0	12.0
17	15.0	14.0	13.0	12.0	11.0	10.5	7.5	7.0	10.0	9.5	12.5	11.5
18	15.0	14.0	14.5	13.0	10.5	10.0	7.5	7.5	10.0	9.5	13.5	12.0
19	14.0	13.0	14.5	14.0	10.0	9.5	8.0	7.5	10.0	9.5	14.0	12.5
20	13.5	12.5	14.5	13.5	9.5	9.0	8.0	7.5	10.0	9.5	14.5	12.5
21	12.5	11.5	14.0	13.5	9.0	9.0	8.0	7.5	10.0	9.0	14.5	13.5
22	12.5	11.5	14.5	13.5	9.0	8.5	8.0	7.5	10.0	9.0	14.5	13.5
23	13.0	12.0	14.5	14.0	9.0	8.5	8.5	8.0	9.5	9.0	15.5	14.0
24	13.0	12.5	14.0	13.5	9.0	9.0	8.5	8.0	9.5	9.0	16.0	14.5
25	13.0	12.0	14.0	13.0	9.0	8.5	9.0	8.0	9.5	9.0	16.0	15.0
26	12.5	11.5	13.5	12.5	9.0	9.0	10.5	9.0	9.5	9.0	16.5	15.5
27	11.5	11.0	12.5	12.0	9.5	9.0	10.5	10.0	10.0	9.0	16.5	15.5
28	12.0	11.0	12.0	11.5	9.5	9.5	10.0	9.5	9.5	9.0	16.0	15.5
29	12.0	11.0	11.5	10.5	10.5	9.5	10.0	9.0	---	---	15.5	14.5
30	12.0	11.0	11.0	10.0	11.0	10.5	9.5	9.0	---	---	15.5	14.5
31	12.5	11.5	---	---	11.5	11.0	9.0	9.0	---	---	15.5	14.0
MONTH	19.5	11.0	14.5	10.0	12.0	8.5	12.0	6.0	10.0	8.5	16.5	8.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.0	13.5	19.0	17.0	22.0	21.5	21.5	20.5	21.0	19.0	20.5	19.5
2	13.5	12.5	19.0	17.0	21.5	21.0	21.5	20.5	21.0	19.0	20.5	20.0
3	14.5	13.0	19.5	17.0	21.5	20.0	21.5	20.5	21.0	19.5	21.5	20.0
4	14.5	13.5	19.5	17.0	20.5	20.0	22.0	21.0	21.5	20.0	22.0	21.0
5	14.5	13.0	20.0	17.5	21.0	20.0	22.0	21.0	22.5	20.5	22.0	21.5
6	14.5	13.5	20.5	18.5	21.0	20.5	22.5	21.0	22.0	20.5	22.0	21.0
7	15.5	13.5	21.5	19.0	21.5	21.0	23.0	21.0	22.0	20.5	21.5	20.5
8	16.0	14.5	22.0	19.5	22.5	21.0	23.0	21.5	21.5	20.0	21.0	20.5
9	16.5	15.0	22.0	19.5	23.0	22.0	22.5	21.5	21.5	19.5	21.0	20.5
10	16.5	14.5	22.5	20.0	23.0	22.5	22.5	21.0	20.5	19.5	21.0	20.0
11	16.5	15.0	23.0	21.0	22.5	22.0	22.0	20.5	20.5	19.0	21.0	20.0
12	16.0	15.0	23.5	21.0	22.5	22.0	22.0	20.0	21.5	19.0	21.0	20.0
13	17.0	15.0	23.0	21.5	22.0	21.5	21.5	20.0	22.0	20.0	20.5	20.0
14	17.5	16.0	23.0	21.0	22.0	21.0	22.0	20.5	22.0	21.0	20.5	19.5
15	18.5	16.5	23.0	21.5	22.5	21.5	22.0	20.0	21.5	20.0	20.5	19.0
16	19.0	17.5	23.0	21.5	23.0	21.5	21.5	20.0	21.0	19.5	20.0	19.0
17	20.0	18.0	24.0	22.5	23.5	22.5	21.0	19.5	21.0	19.0	19.5	18.5
18	19.5	18.5	24.5	23.0	23.5	22.5	21.0	19.0	20.0	19.0	19.5	18.5
19	18.5	17.5	24.5	23.0	23.5	22.5	21.0	19.5	20.0	19.5	19.0	18.5
20	18.5	17.5	23.5	22.0	23.5	22.5	21.5	19.5	20.5	19.0	19.0	18.0
21	18.0	17.5	23.0	21.5	23.0	22.0	21.5	20.0	21.0	19.5	19.0	18.0
22	17.5	16.5	21.5	20.0	23.0	21.5	22.0	20.5	21.0	19.5	19.5	18.5
23	17.5	16.0	20.0	19.5	23.0	22.0	22.0	20.5	20.5	19.5	20.0	19.0
24	17.0	16.0	20.5	19.0	23.0	22.0	20.5	19.5	20.0	18.5	20.5	19.0
25	17.5	16.5	20.5	19.5	23.5	22.0	21.0	19.0	20.0	18.5	20.5	19.5
26	18.5	17.0	20.0	19.5	23.0	22.0	21.5	19.5	20.5	19.0	20.5	19.5
27	19.0	17.5	20.5	19.5	23.0	21.5	21.5	19.5	20.5	19.5	20.0	19.0
28	18.5	17.0	21.0	20.0	22.0	21.0	21.5	19.5	20.5	19.5	19.0	18.5
29	19.0	17.0	21.5	20.5	22.0	21.0	22.0	20.0	21.0	19.5	19.5	18.0
30	19.5	17.5	21.5	21.0	21.5	20.5	21.5	20.0	20.5	19.5	19.5	18.5
31	---	---	22.0	21.0	---	---	21.0	19.5	20.5	19.5	---	---
MONTH	20.0	12.5	24.5	17.0	23.5	20.0	23.0	19.0	22.5	18.5	22.0	18.0

11426000 SACRAMENTO WEIR SPILL TO YOLO BYPASS, NEAR SACRAMENTO, CA

LOCATION.--Lat 38°36'25", long 121°33'15", unsurveyed, Sacramento County, Hydrologic Unit 18020109, on right bank 100 ft upstream from weir, 3.2 mi upstream from American River, 4 mi northwest of Sacramento, and 4.2 mi upstream from Sacramento.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for water years 1940-51, published in WSP 1735. Published as Sacramento Weir near Sacramento 1939-61. Gage-height records collected at same site February 1926 to September 1934 and major flood flows only October 1934 to September 1939 are contained in reports of California Department of Water Resources.

GAGE.--Water-stage recorder and concrete weir crest. Datum of gage is 3.00 ft below sea level. October 1939 to September 1942, October 1959 to September 1963, water-stage recorder or nonrecording gage at downstream end of weir. October 1942 to September 1959, water-stage recorder on left bank of Sacramento River opposite center of weir. February 1963 to September 1985, water-stage recorder on right bank of Sacramento River 100 ft downstream from end of weir.

REMARKS.--Crest of weir is at gage height 20.2 ft and top of movable gates at 28.0 ft. Weir consists of 48 gates each 38.1 ft long. Flow over weir enters Yolo Bypass by way of Sacramento Bypass. Flow regulated by weir gates. February 1963 to September 1985, stage was obtained by averaging the stage obtained at sites on the Sacramento River above and below the weir. See schematic diagram of lower Sacramento River basin.

COOPERATION.--Records provided by California Department of Water Resources; not reviewed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128,000 ft^3/s, Feb. 20, 1986, gage height, 30.84 ft; maximum gage height, 33.01 ft, Dec. 23, 1955; no flow all or most of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	24800	398	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	94500	350	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	96100	322	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	90600	302	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	77300	288	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	59500	264	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	40800	240	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	33500	202	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	29200	163	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	23900	125	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	15500	86	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	8800	43	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	1840	5	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	355	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	312	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	259	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	206	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	163	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	134	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	120	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	110	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	264	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	624	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	624	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	912	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	3700	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	48	2880	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	336	1580	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	528	1140	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	1170	576	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	3460	466	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	5542.00	610765	2788.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	179	19700	99.6	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	3460	96100	398	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	110	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	10990	1211000	5530	.00	.00	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

MEAN	1.35	134	572	844	740	564	92.1	2.32	.000	.000	.000	.000
MAX	72.6	7014	12470	19700	23920	17830	2042	79.1	.000	.000	.000	.000
(WY)	1963	1951	1965	1997	1986	1983	1982	1983	1943	1943	1943	1943
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1944	1944	1944	1944	1944	1944	1944	1943	1943	1943	1943	1943

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1943 - 1997	
ANNUAL TOTAL	15349.00		619095.00			
ANNUAL MEAN	41.9		1696		241	
HIGHEST ANNUAL MEAN					2075	1986
LOWEST ANNUAL MEAN					.000	1944
HIGHEST DAILY MEAN	3460	Dec 31	96100	Jan 3	123000	Feb 20 1986
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jan 1 1943
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Jan 1 1943
INSTANTANEOUS PEAK FLOW			116000	Jan 3	128000	Feb 20 1986
INSTANTANEOUS PEAK STAGE			30.30	Jan 3	33.01	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	30440		1228000		174800	
10 PERCENT EXCEEDS	103		248		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11426170 LAKE VALLEY RESERVOIR NEAR CISCO, CA

LOCATION.--Lat 39°18'01", long 120°35'46", in NE 1/4 NW 1/4 sec.35, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, on dam near left abutment on North Fork of North Fork American River and 1.3 mi west of Cisco.

DRAINAGE AREA.--4.54 mi^2.

PERIOD OF RECORD.--July 1987 to current year. Unpublished records for water years 1980-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 5,727.4 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to July 1987, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by an earthfill dam; storage began in 1911. Usable capacity, 7,960 acre-ft between gage heights 6.2 ft, natural rim of lake, and 57.5 ft, top of flashboards. Released water is diverted downstream to Lake Valley Canal (station 11426190) and then to several powerplants. Records, including extremes, represent usable contents at 2400 hours. See schematic diagrams of Bear and Yuba River basins.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,225 acre-ft, Jan. 1, 1997, gage height, 58.35 ft; minimum, 1,153 acre-ft, Feb. 28, 1990, gage height, 25.01 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,225 acre-ft, Jan. 1, gage height, 58.35 ft; minimum, 3,172 acre-ft, Nov. 16, gage height, 38.71 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated June 18, 1965)

8	41	17	476	40	3,455
10	102	20	693	50	5,810
12	189	25	1,152	59	8,411
14	304	30	1,830		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4809	3732	3627	8225	7173	6283	6022	7560	e7776	7749	7140	5669
2	4802	3692	3620	7788	7161	6278	6003	e7605	e7767	7740	7092	5633
3	4780	3657	3604	7498	7143	6245	5980	e7650	e7758	7728	7038	5603
4	4741	3620	3810	7348	7122	6204	5961	e7710	e7815	7719	6987	5557
5	4702	3580	4306	7283	7092	6160	5939	e7770	e7845	7707	6937	5510
6	4662	3546	4417	7230	7062	6121	5920	e7830	e7860	7695	6888	5469
7	4623	3507	4477	7206	7035	6078	5895	e7904	e7854	7686	6839	5427
8	4584	3469	4540	7176	7005	6041	5884	e7949	e7851	7674	6791	5386
9	4544	3429	4743	7152	6969	6005	5867	e7979	e7860	7665	6743	5343
10	4505	3390	5076	7131	6934	5972	5851	e8009	e7874	7650	6693	5299
11	4463	3350	5655	7104	6896	5942	5829	e7964	e7886	7641	6643	5260
12	4423	3309	6377	7083	6859	5911	5813	e7934	e7874	7629	6595	5220
13	4384	3273	6687	7047	6825	5878	5802	e7919	e7874	7617	6548	5181
14	4343	3232	6780	7014	6789	5848	5799	e7904	e7871	7605	6501	5142
15	4304	3201	6845	6987	6752	5824	5807	e7904	e7871	7596	6454	5112
16	4263	3172	6896	6952	6718	5829	5854	e7889	e7874	7587	6408	5071
17	4225	3291	6934	6916	6710	5824	5942	e7874	e7889	7569	6361	5027
18	4198	3429	6928	6879	6676	5810	6089	e7871	e7889	7558	6311	4990
19	4162	3505	6958	6842	6648	5802	6364	e7883	e7874	7546	6267	4964
20	4125	3509	6990	6842	6615	5793	6515	e7889	e7860	7534	6236	4936
21	4084	3546	7047	6839	6579	5802	6673	e7892	e7848	7522	6193	4922
22	4049	3664	7071	6922	6545	5818	6831	e7919	e7833	7510	6143	4908
23	4010	3696	7047	6899	6512	5840	7023	e7919	e7818	7498	6097	4897
24	3996	3694	7011	6876	6468	5867	7134	e7889	e7815	7489	6050	4881
25	3969	3683	6981	7104	6427	5892	7215	e7889	e7806	7474	6003	4864
26	3928	3664	7140	7301	6391	5936	7307	e7845	e7800	7444	5955	4839
27	3884	3634	7301	7301	6369	5975	7408	e7815	e7785	7390	5909	4812
28	3845	3615	7301	7259	6325	6000	7468	e7800	e7776	7345	5859	4789
29	3828	3587	7483	7224	---	6011	7477	e7794	e7770	7295	5813	4770
30	3803	3560	7755	7191	---	6030	7510	e7788	e7755	7245	5766	4754
31	3767	---	7707	7170	---	6033	---	e7788	---	7194	5716	---
MAX	4809	3732	7755	8225	7173	6283	7510	8009	7889	7749	7140	5669
MIN	3767	3172	3604	6839	6325	5793	5799	7560	7755	7194	5716	4754
a	41.36	40.46	56.64	54.84	51.87	50.81	55.98			54.92	49.66	45.67
b	-1049	-207	+4147	-537	-845	-292	+1477	+278	-33	-561	-1478	-962
c	1390	1320	1930	1620	1780	1990	1530	833	140	246	1080	816

CAL YR 1996 b +3984 c 17030
WTR YR 1997 MAX 8225 MIN 3172 b -62 c 14680

e Estimated.
a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.
c Diversion, in acre-feet, to Lake Valley Canal, provided by Pacific Gas & Electric Co.

11426180 KELLY LAKE NEAR CISCO, CA

LOCATION.--Lat 39°18'40", long 120°34'49", in SE 1/4 NW 1/4 sec.25, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on outlet structure on Kelly Lake Dam on unnamed tributary to North Fork of North Fork American River, and 2.2 mi west of Cisco.

DRAINAGE AREA.--0.58 mi^2.

PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1965-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 5,888.9 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to October 1991, nonrecording gage at same site and datum.

REMARKS.--No record Oct. 1 to Apr. 21 due to equipment malfunction. Reservoir is formed on natural lake by rock-fill dam completed in 1928. Usable capacity, 336 acre-ft between gage heights 0.0 ft, invert of outlet, and 17.1 ft, top of flashboards. Water is used for power development downstream. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of Bear River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 359 acre-ft, May 15, 1996, gage height, 17.96 ft; no storage many days in Oct. 1991.

EXTREMES FOR CURRENT YEAR.--Maximum contents recorded, 342 acre-ft, June 16, 17, gage height, 17.31 ft; minimum recorded, 106 acre-ft, Sept. 30, gage height, 6.72 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated December 1933)

0	0	12	213
4	61	16	308
8	130	19	387

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	329	332	330	308	284
2	---	---	---	---	---	---	---	330	332	330	306	296
3	---	---	---	---	---	---	---	330	333	329	305	291
4	---	---	---	---	---	---	---	332	334	329	305	286
5	---	---	---	---	---	---	---	333	335	328	304	282
6	---	---	---	---	---	---	---	333	335	328	303	278
7	---	---	---	---	---	---	---	333	336	327	303	273
8	---	---	---	---	---	---	---	333	337	326	302	268
9	---	---	---	---	---	---	---	333	339	325	301	265
10	---	---	---	---	---	---	---	334	339	325	300	276
11	---	---	---	---	---	---	---	334	339	323	297	276
12	---	---	---	---	---	---	---	334	340	322	296	275
13	---	---	---	---	---	---	---	335	340	321	295	275
14	---	---	---	---	---	---	---	334	341	321	294	276
15	---	---	---	---	---	---	---	334	341	320	294	276
16	---	---	---	---	---	---	---	334	342	320	292	274
17	---	---	---	---	---	---	---	333	342	319	292	273
18	---	---	---	---	---	---	---	333	340	318	291	274
19	---	---	---	---	---	---	---	333	341	318	290	273
20	---	---	---	---	---	---	---	332	340	317	291	273
21	---	---	---	---	---	---	---	331	339	317	290	273
22	---	---	---	---	---	---	336	330	339	316	290	272
23	---	---	---	---	---	---	334	333	339	315	289	271
24	---	---	---	---	---	---	330	334	339	315	289	254
25	---	---	---	---	---	---	328	334	334	314	288	226
26	---	---	---	---	---	---	328	334	334	314	288	198
27	---	---	---	---	---	---	327	334	334	313	288	174
28	---	---	---	---	---	---	326	333	333	313	286	150
29	---	---	---	---	---	---	326	333	331	312	286	127
30	---	---	---	---	---	---	327	333	331	309	285	106
31	---	---	---	---	---	---	---	332	---	309	284	---
MAX	---	---	---	---	---	---	---	335	342	330	308	296
MIN	---	---	---	---	---	---	---	329	331	309	284	106
a							16.71	16.94	16.87	16.02	15.05	6.72
b								+5	-1	-22	-25	-178

WTR YR 1997 b -164

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA

LOCATION.--Lat 38°56'10", long 121°01'22", in SW 1/4 NW 1/4 sec.31, T.13 N., R.9 E., Placer County, Hydrologic Unit 18020128, on left bank 50 ft upstream from crest of North Fork Dam, 2 mi upstream from Middle Fork, and 4 mi northeast of Auburn.

DRAINAGE AREA.--342 mi^2.

PERIOD OF RECORD.--October 1941 to current year.
CHEMICAL DATA: Water years 1977-80.
WATER TEMPERATURE: Water years 1959-83.
SEDIMENT DATA: Water year 1980 (periodic record).

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and ogee section of concrete debris dam. Datum of gage is 715.0 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good. Minor regulation by Lake Clementine, usable capacity, 12,800 acre-ft, formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir (station 11426170), combined capacity, 10,300 acre-ft upstream from station. Lake Valley Canal (station 11426190) diverts from North Fork of North Fork American River into Bear River basin for power development in powerplants of Pacific Gas & Electric Co. Combined storage and diversion have small effect on natural flow. See schematic diagrams of Bear and lower Sacramento River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,400 ft^3/s, Dec. 23, 1964, gage height, 11.87 ft, from rating curve extended above 24,000 ft^3/s on basis of computed flow over crest of dam at gage height 10.22 ft; no flow Aug. 27-30, Sept. 2-11, 1944; Oct. 5, 6, 1963; Nov. 7-10, 1965, caused by operation of valve in North Fork Dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 18	0900	4,710	3.68	Jan. 1	1430	64,800	11.82
Dec. 5	1200	12,600	5.45	Jan. 26	0900	20,600	6.71
Dec. 12	0845	20,900	6.76				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	89	341	45800	2850	710	924	977	493	146	67	55
2	56	78	563	50100	2720	762	812	969	462	144	66	60
3	59	72	374	17100	2340	783	743	999	416	136	66	61
4	59	70	321	8740	2080	744	713	1120	706	130	66	58
5	58	67	6580	5960	1890	721	716	1260	933	126	66	56
6	56	63	3040	4360	1690	704	695	1220	591	123	64	54
7	55	62	1610	3310	1570	697	670	1220	475	120	64	53
8	55	64	1160	2820	1540	699	684	1230	425	118	63	53
9	54	64	1330	2440	1420	715	704	1290	434	115	60	52
10	53	64	5860	2150	1330	752	664	1350	424	113	59	50
11	53	63	6000	1930	1250	867	631	1330	371	110	60	50
12	53	63	15200	1780	1170	884	633	1350	335	106	61	50
13	53	64	7500	1630	1110	825	656	1340	342	102	61	50
14	53	66	4100	1500	1070	799	720	1210	314	100	60	50
15	53	66	2610	1470	1050	871	825	1130	338	96	58	53
16	52	68	1950	1390	1060	980	971	1050	317	93	56	57
17	52	175	1520	1290	1190	1130	1110	977	287	92	54	54
18	61	2950	1260	1190	1150	1130	1240	1120	270	89	55	53
19	65	824	1070	1120	1040	1100	2420	967	251	87	57	53
20	63	1160	951	1230	994	1110	2170	853	233	85	68	54
21	59	538	2050	1560	947	1080	2160	735	218	82	78	57
22	57	1520	3100	6240	897	1160	1940	642	203	79	68	54
23	56	1790	2330	8710	849	1290	2460	597	190	78	60	53
24	60	803	1620	4260	804	1360	1860	803	185	79	59	53
25	67	520	1310	7760	770	1390	1410	637	170	80	59	53
26	79	403	1760	14700	753	1360	1360	554	162	77	57	53
27	67	329	9150	8910	759	1570	1500	509	157	74	57	60
28	60	282	6340	5810	765	1450	1530	512	147	73	56	60
29	67	262	6360	4460	---	1250	1220	528	141	72	55	52
30	106	235	14700	3570	---	1140	1090	527	140	70	54	51
31	106	---	21700	3090	---	1080	---	527	---	69	55	---
TOTAL	1903	12874	133760	226380	37058	31113	35231	29533	10130	3064	1889	1622
MEAN	61.4	429	4315	7303	1324	1004	1174	953	338	98.8	60.9	54.1
MAX	106	2950	21700	50100	2850	1570	2460	1350	933	146	78	61
MIN	52	62	321	1120	753	697	631	509	140	69	54	50
AC-FT	3770	25540	265300	449000	73500	61710	69880	58580	20090	6080	3750	3220

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	106	379	929	1376	1404	1494	1570	1612	774	191	65.6	49.5
MAX	1749	3307	5781	7303	8403	5187	4490	3688	2855	928	214	121
(WY)	1963	1951	1965	1997	1986	1995	1982	1952	1983	1983	1983	1982
MIN	18.3	35.6	33.9	44.6	70.5	114	207	273	71.7	25.8	13.4	14.9
(WY)	1978	1960	1977	1991	1991	1977	1977	1992	1992	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1942 - 1997	
ANNUAL TOTAL	537170		524557			
ANNUAL MEAN	1468		1437		826	
HIGHEST ANNUAL MEAN					1843	1982
LOWEST ANNUAL MEAN					88.5	1977
HIGHEST DAILY MEAN	21700	Dec 31	50100	Jan 2	50100	Jan 2 1997
LOWEST DAILY MEAN	52	Oct 16	50	Sep 10	.00	Aug 27 1944
ANNUAL SEVEN-DAY MINIMUM	53	Oct 11	51	Sep 8	.00	Sep 2 1944
INSTANTANEOUS PEAK FLOW			64800	Jan 1	65400	Dec 23 1964
INSTANTANEOUS PEAK STAGE			11.82	Jan 1	11.87	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	1065000		1040000		598600	
10 PERCENT EXCEEDS	3020		2450		2050	
50 PERCENT EXCEEDS	680		554		275	
90 PERCENT EXCEEDS	61		55		41	

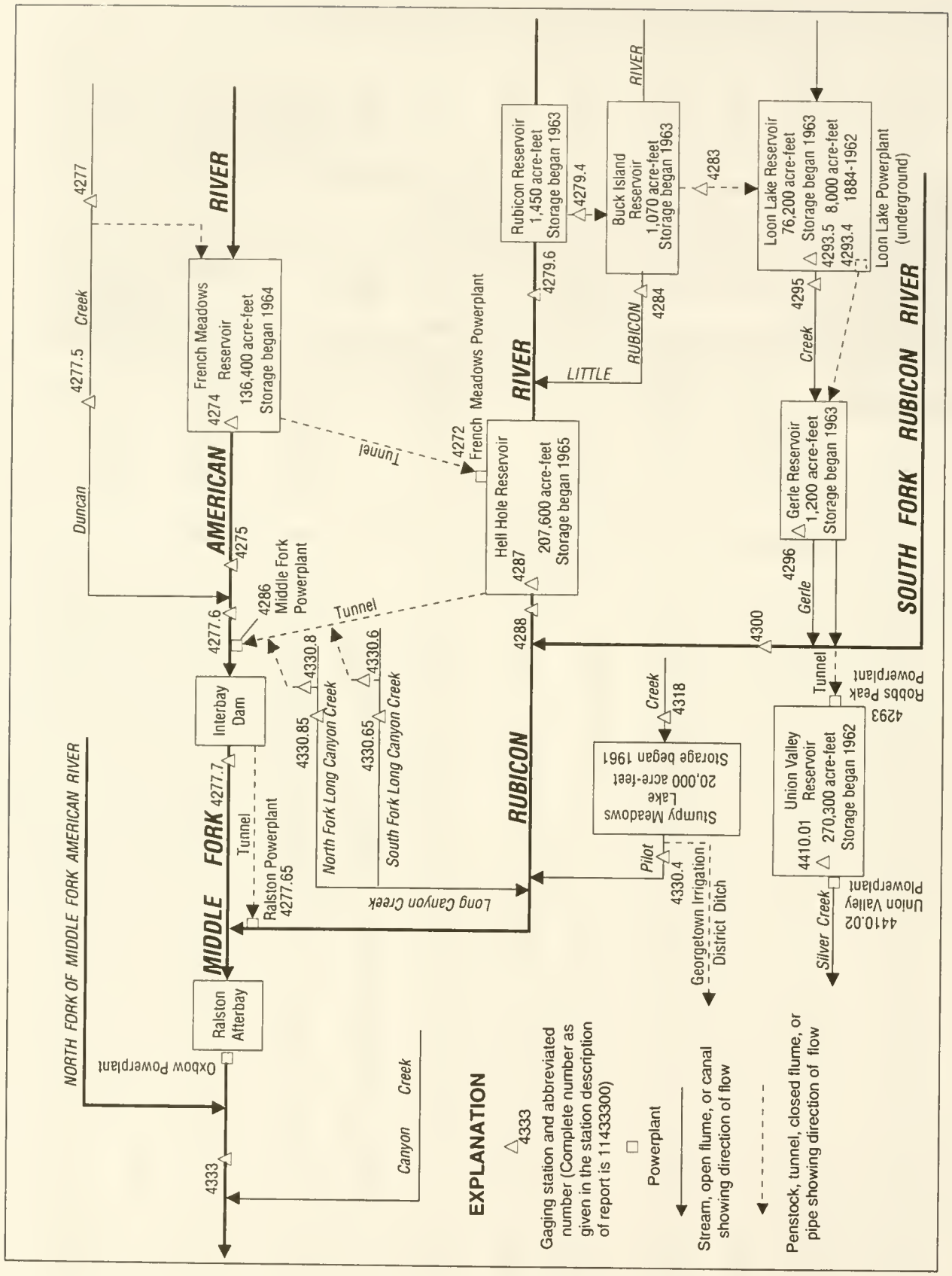

Figure 33. Diversions and storage in Middle Fork American and Rubicon River basins.

11427400 FRENCH MEADOWS RESERVOIR NEAR FORESTHILL, CA

LOCATION.--Lat 39°06'32", long 120°25'49", in SW 1/4 NE 1/4 sec.32, T.15 N., R.14 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 2.2 mi upstream from dam on Middle Fork American River, 6.9 mi upstream from Chipmunk Creek, and 21 mi northeast of Foresthill.

DRAINAGE AREA.--47.0 mi^2.

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Placer County Water Agency).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 21, 1964. Usable capacity, 125,601 acre-ft between elevations 5,125 ft, minimum operating level, and 5,263 ft, top of radial gates. Dead storage, 10,804 acre-ft. Reservoir is used to store water for hydroelectric power. Up to 400 ft^3/s diverted from Duncan Creek through a tunnel to reservoir. Water is released through a tunnel to French Meadows Powerplant (station 11427200) at Hell Hole Reservoir (station 11428700) on the Rubicon River; releases began Dec. 13, 1965. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,700 acre-ft, May 19, 1966, elevation, 5,263.9 ft; minimum since reservoir first filled, 28,500 acre-ft, Oct. 21-24, 1991, elevation, 5,157.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 135,400 acre-ft, June 5, elevation, 5,262.3 ft; minimum, 68,100 acre-ft, Nov. 16, Dec. 4, elevation, 5,205.8 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on a survey by Placer County Water Agency in 1965)

5,125	10,800	5,200	62,400
5,130	13,100	5,230	94,100
5,150	23,700	5,270	146,500
5,170	37,100		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89600	75500	68900	116700	110200	96600	100200	120800	134900	128100	115400	101300
2	89300	75100	68600	122900	110100	96100	100300	121200	134900	127600	115000	100800
3	88800	74600	68200	118200	110000	95500	100500	121600	134700	127200	114500	100300
4	88500	74000	68100	115000	109800	94800	100900	122100	135300	127100	114100	99800
5	88100	73500	71400	112700	109500	94100	101400	122800	135300	127100	113800	99400
6	87800	73000	71900	111600	109000	93500	101700	123300	135000	127000	113300	98900
7	87500	72500	72100	111500	108700	93000	101900	123800	134900	126400	112700	98400
8	87100	71900	72500	111200	108100	92600	102100	124500	134900	126000	112400	97900
9	86700	71500	73000	111000	107600	92200	102200	125200	134900	125600	111900	97500
10	86400	71100	74700	110600	107000	91900	102200	125900	134600	125200	111400	97000
11	85800	70600	77500	110200	106500	91500	102500	126700	134300	124800	110800	96400
12	85300	70100	81900	109800	105900	91200	102800	127400	134200	124300	110500	95900
13	84900	69500	83700	109300	105300	90900	103300	128300	133900	123800	110000	95500
14	84400	69000	84300	109000	104700	90900	103400	129100	133700	123300	109500	95000
15	83900	68500	84500	108700	104200	91000	103800	130000	133600	122900	109000	94500
16	83400	68100	84400	108300	103700	91200	104200	130500	133300	122400	108500	94100
17	82800	69000	84200	108000	103300	91400	104700	131400	133200	122000	108100	93600
18	82400	70000	83900	107600	102700	91700	105600	131900	132900	121600	107600	93200
19	81900	70100	83600	107200	102400	92000	108200	132300	132600	121000	107100	92700
20	81300	70100	83300	107000	101900	92300	110000	132800	132300	120700	106700	92300
21	80900	70100	83200	106700	101300	92900	111600	132900	131900	120300	106200	91800
22	80400	70800	82800	106900	100700	93400	112900	133000	131600	120000	105900	91300
23	79800	70800	82300	107100	100100	94200	114800	133300	131200	119500	105400	90900
24	79400	70800	81900	107500	99500	94900	115800	133900	130800	119100	104900	90400
25	78900	70500	81300	109200	98900	95600	116600	134300	130400	118500	104400	90100
26	78300	70300	81400	110700	98400	96400	117500	134700	130000	118000	104000	89500
27	78000	69900	82100	111200	97800	97300	118400	134900	129600	117600	103600	89000
28	77500	69600	82100	111200	97200	98100	119300	134700	129300	117200	103100	88600
29	77000	69200	83900	111100	---	98800	119900	134700	128900	116700	102600	88100
30	76500	68800	88100	110700	---	99500	120400	134900	128500	116300	102100	87700
31	76000	---	95100	110500	---	100000	---	134900	---	115800	101700	---
MAX	89600	75500	95100	122900	110200	100000	120400	134900	135300	128100	115400	101300
MIN	76000	68100	68100	106700	97200	90900	100200	120800	128500	115800	101700	87700
a	5213.6	5206.5	5230.9	5243.6	5232.7	5235.0	5251.3	5261.9	5257.3	5247.8	5236.5	5224.4
b	-14000	-7200	+26300	+15400	-13300	+2800	+20400	+14500	-6400	-12700	-14100	-14000

CAL YR 1996 b +29700
WTR YR 1997 b -2300

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA

LOCATION.--Lat 39°06'35", long 120°28'49", in SW 1/4 NW 1/4 sec.36, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 0.6 mi downstream from French Meadows Dam, 4.1 mi upstream from Chipmunk Creek, and 14 mi south of Cisco.

DRAINAGE AREA.--47.9 mi^2.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1445: 1953-54. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,920 ft above sea level, from topographic map. Prior to Oct. 1, 1962, at site 0.8 mi upstream at different datum.

REMARKS.--Considerable regulation by French Meadows Reservoir (station 11427400) 0.6 mi upstream beginning December 1964. Water diverted into basin from Duncan Creek to French Meadows Reservoir since December 1964. Water diverted out of basin from French Meadows Reservoir through French Meadows Powerplant (station 11427200) to Hell Hole Reservoir (station 11428700) since December 1965. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft^3/s, Jan. 31, 1963, gage height, 14.20 ft, from rating curve extended above 1,100 ft^3/s on basis of peak flow at former site; minimum, 0.3 ft^3/s, Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 6,050 ft^3/s, May 16, 1996, gage height, 11.61 ft, from flow over spillway of French Meadows Reservoir; minimum daily, 0.8 ft^3/s, Oct. 22-25, 1964.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	8.8	13	e380	e16	10	10	11	10	10	9.8	e9.2
2	9.6	8.5	12	e3280	15	10	10	11	10	10	9.8	e9.3
3	9.4	8.4	11	e2370	14	10	10	11	11	10	9.8	e9.3
4	9.4	8.8	e12	e923	13	10	9.9	11	11	10	9.8	e9.3
5	9.4	9.4	e44	e305	13	10	9.8	11	11	10	9.8	e9.3
6	9.4	9.4	e23	e60	12	10	9.8	11	11	10	9.8	e9.3
7	9.4	9.4	e18	16	12	10	9.8	11	11	10	9.8	e9.3
8	9.4	9.4	e16	15	11	10	9.8	11	11	9.9	e9.8	e9.4
9	9.4	9.4	e19	14	11	10	9.6	11	10	9.8	e9.8	e9.4
10	9.4	9.4	e33	14	11	10	9.4	11	10	9.8	e9.8	9.4
11	9.4	9.4	e42	13	11	10	9.4	11	10	9.8	e10	9.8
12	9.4	9.4	e47	13	11	10	9.4	11	10	10	e11	10
13	9.4	9.4	e32	13	11	10	9.4	10	11	10	e10	10
14	9.4	9.4	e22	12	11	10	9.4	10	10	10	e9.8	10
15	9.4	9.7	e19	12	11	10	9.6	10	10	10	e9.2	10
16	9.4	10	e17	12	11	11	9.8	10	10	10	e9.2	10
17	9.4	e16	e16	12	12	12	9.8	11	10	10	e9.2	10
18	9.5	e18	15	12	12	11	9.8	11	10	10	e9.2	10
19	9.4	13	14	12	12	11	11	10	10	10	e9.2	11
20	9.3	12	14	12	11	11	11	10	10	10	e9.2	10
21	9.1	12	14	13	11	11	11	10	10	10	e9.2	10
22	9.1	e17	14	13	11	11	10	10	10	10	e9.2	10
23	9.1	15	13	14	11	11	12	11	10	10	e9.2	10
24	9.6	12	13	14	11	11	11	11	10	10	e9.2	10
25	9.2	11	13	e42	10	11	11	11	10	10	e9.2	10
26	9.1	10	e19	e43	10	11	10	11	10	10	e9.2	9.9
27	e8.8	10	e30	e26	11	11	10	11	10	10	e9.2	9.5
28	e8.8	10	e23	e20	10	11	10	10	10	10	e9.2	9.4
29	e8.8	9.9	e36	e18	---	11	10	10	10	10	e9.2	9.4
30	8.8	9.8	e48	e16	---	10	11	10	10	10	e9.2	9.4
31	8.8	---	e59	15	---	11	---	10	---	9.9	e9.2	---
TOTAL	287.5	323.9	721	7734	326	326	302.7	329	307	309.2	295.2	291.6
MEAN	9.27	10.8	23.3	249	11.6	10.5	10.1	10.6	10.2	9.97	9.52	9.72
MAX	9.6	18	59	3280	16	12	12	11	11	10	11	11
MIN	8.8	8.4	11	12	10	10	9.4	10	10	9.8	9.2	9.2
AC-FT	570	642	1430	15340	647	647	600	653	609	613	586	578
a	13510	14450	21080	18400	21500	15180	7800	8610	14300	12810	13840	13430

e Estimated.

a Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows Powerplant, provided by Placer County Water Agency.

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1964, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.8	20.3	101	92.5	143	151	356	550	297	52.4	6.04	2.10
MAX	222	106	882	377	561	367	537	1110	775	232	25.3	5.06
(WY)	1963	1964	1956	1956	1963	1960	1962	1958	1952	1952	1952	1952
MIN	.40	1.60	1.76	5.57	40.1	55.2	187	210	69.7	6.22	1.57	.64
(WY)	1961	1960	1960	1960	1955	1962	1955	1959	1959	1959	1959	1961

SUMMARY STATISTICS	WATER YEARS 1952 - 1964	
ANNUAL MEAN	149	
HIGHEST ANNUAL MEAN	265	1956
LOWEST ANNUAL MEAN	68.7	1961
HIGHEST DAILY MEAN	11300	Dec 23 1955
LOWEST DAILY MEAN	.30	Oct 22 1960
ANNUAL SEVEN-DAY MINIMUM	.34	Oct 19 1960
INSTANTANEOUS PEAK FLOW	21500	Jan 31 1963
INSTANTANEOUS PEAK STAGE	14.20	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	108000	
10 PERCENT EXCEEDS	446	
50 PERCENT EXCEEDS	38	
90 PERCENT EXCEEDS	1.5	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.5	10.3	13.1	20.3	18.5	23.3	24.2	51.6	42.0	16.0	8.43	11.9
MAX	266	42.7	83.3	249	201	375	248	518	272	136	15.0	136
(WY)	1966	1966	1965	1997	1982	1986	1965	1965	1995	1983	1965	1965
MIN	1.67	3.16	3.91	4.37	4.53	4.40	4.47	3.95	3.68	2.98	2.76	2.70
(WY)	1965	1978	1977	1977	1977	1977	1977	1976	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	15418.4		11553.1			
ANNUAL MEAN	42.1		31.7		21.3	
HIGHEST ANNUAL MEAN					97.3	1965
LOWEST ANNUAL MEAN					3.90	1977
HIGHEST DAILY MEAN	3430	May 16	3280	Jan 2	3430	May 16 1996
LOWEST DAILY MEAN	8.4	Nov 3	8.4	Nov 3	.80	Oct 22 1964
ANNUAL SEVEN-DAY MINIMUM	8.7	Oct 28	8.7	Oct 28	.84	Oct 21 1964
INSTANTANEOUS PEAK FLOW			4140	Jan 2	6050	May 16 1996
INSTANTANEOUS PEAK STAGE			11.17	Jan 2	11.61	May 16 1996
ANNUAL RUNOFF (AC-FT)	30580		22920		15410	
TOTAL DIVERSION (AC-FT) a	180600		174900			
10 PERCENT EXCEEDS	28		15		15	
50 PERCENT EXCEEDS	12		10		9.5	
90 PERCENT EXCEEDS	9.4		9.3		5.6	

a Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows Powerplant, provided by Placer County Water Agency.

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°08'09", long 120°28'39", in NE 1/4 NW 1/4 sec.24, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 0.2 mi upstream from diversion dam, 0.5 mi downstream from Little Duncan Creek, 2 mi northwest of French Meadows, and 20 mi northeast of Foresthill.

DRAINAGE AREA.--9.94 mi^2.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,270 ft above sea level, from topographic map. Prior to Sept. 3, 1965, at site 150 ft upstream at datum 9.56 ft higher.

REMARKS.--No regulation or diversion upstream from station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft^3/s, Dec. 22, 1964, gage height, 10.6 ft, from floodmarks, from rating curve extended above 400 ft^3/s on basis of computation of flow over diversion dam; maximum gage height, 10.95, Jan. 1, 1997 (backwater from debris dam); minimum daily, 0.10 ft^3/s, several days during July and August 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 18	0230	476	7.70	Jan. 1	1030	3,630	10.59
Nov. 21	2130	258	7.22	Jan. 1	1230	(a)	10.95
Dec. 5	0815	837	8.24	Apr. 23	0230	341	7.40
Dec. 12	0230	1,380	8.90.				

(a) Backwater caused by debris dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	2.5	54	2800	57	22	61	78	17	5.5	1.5	.86
2	.85	2.2	29	1640	54	22	53	72	16	5.0	1.5	.88
3	.84	1.9	24	411	47	21	49	72	18	4.6	1.4	.91
4	.81	1.7	31	223	43	22	49	78	37	4.4	1.4	.87
5	.76	1.6	491	142	40	21	47	80	27	4.1	1.3	.82
6	.74	1.5	156	104	38	21	44	81	22	3.9	1.2	.81
7	.72	1.5	92	82	35	22	44	84	18	3.7	1.1	.78
8	.67	1.5	86	67	34	24	44	89	17	3.7	1.1	.75
9	.66	1.5	112	58	33	26	42	93	19	3.5	1.0	.72
10	.66	1.5	209	50	31	30	40	93	17	3.4	1.0	.73
11	.69	1.5	427	45	30	32	39	90	15	3.3	1.1	.79
12	.70	1.4	781	41	29	31	40	89	14	3.2	1.1	.77
13	.73	1.4	452	37	28	30	43	82	20	3.0	1.0	.75
14	.74	1.4	232	37	29	33	47	73	17	2.9	.94	.77
15	.74	1.5	143	34	30	37	55	66	15	2.6	.91	1.0
16	.74	1.7	104	32	32	39	68	59	13	2.5	.88	.91
17	.74	134	80	30	33	42	80	58	12	2.5	.86	.82
18	1.3	170	62	29	31	46	92	55	11	2.4	.89	.81
19	1.4	78	51	28	30	51	235	46	9.9	2.3	.98	7.2
20	.99	49	45	e25	29	55	168	41	9.2	2.2	1.8	2.3
21	.95	65	e37	e18	28	59	183	36	8.6	2.1	1.3	1.5
22	.92	123	e35	e12	26	69	154	32	8.0	2.0	1.1	1.2
23	.95	73	e33	40	26	81	236	38	7.5	2.0	1.0	1.1
24	3.6	46	31	28	24	92	152	36	7.1	2.2	1.2	1.0
25	3.6	34	29	107	24	94	125	31	6.6	2.0	1.1	1.0
26	1.9	27	63	128	24	109	123	27	6.2	1.8	1.0	1.1
27	1.5	22	131	97	25	112	127	25	5.8	1.8	.97	1.0
28	1.5	21	73	74	23	102	114	23	5.5	1.8	.93	.93
29	2.2	18	268	65	---	90	96	22	5.3	1.7	.87	.90
30	2.9	16	637	57	---	83	85	20	5.7	1.6	.84	.90
31	2.8	---	998	52	---	72	---	19	---	1.6	.85	---
TOTAL	39.14	902.3	5996	6593	913	1590	2735	1788	410.4	89.3	34.12	34.88
MEAN	1.26	30.1	193	213	32.6	51.3	91.2	57.7	13.7	2.88	1.10	1.16
MAX	3.6	170	998	2800	57	112	236	93	37	5.5	1.8	7.2
MIN	.66	1.4	24	12	23	21	39	19	5.3	1.6	.84	.72
AC-FT	78	1790	11890	13080	1810	3150	5420	3550	814	177	68	69

e Estimated.

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.16	18.3	35.7	43.3	41.4	51.0	75.8	118	56.9	8.81	1.56	1.10
MAX	51.1	172	256	213	291	161	162	245	316	100	10.4	4.51
(WY)	1963	1984	1965	1997	1986	1986	1989	1993	1983	1983	1983	1982
MIN	.22	1.09	.76	1.76	3.24	5.75	12.7	12.9	2.71	.51	.19	.34
(WY)	1978	1977	1977	1991	1977	1977	1977	1992	1992	1977	1977	1960

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1960 - 1997	
ANNUAL TOTAL	25625.20		21125.14			
ANNUAL MEAN	70.0		57.9		38.0	
HIGHEST ANNUAL MEAN					86.8	1982
LOWEST ANNUAL MEAN					4.27	1977
HIGHEST DAILY MEAN	998	Dec 31	2800	Jan 1	2800	Jan 1 1997
LOWEST DAILY MEAN	.66	Oct 9	.66	Oct 9	.10	Jul 31 1977
ANNUAL SEVEN-DAY MINIMUM	.69	Oct 7	.69	Oct 7	.11	Aug 8 1977
INSTANTANEOUS PEAK FLOW			3630	Jan 1	3650	Dec 22 1964
INSTANTANEOUS PEAK STAGE			10.95	Jan 1	10.95	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	50830		41900		27520	
10 PERCENT EXCEEDS	167		104		104	
50 PERCENT EXCEEDS	27		22		9.0	
90 PERCENT EXCEEDS	.84		.88		.74	

11427750 DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°07'59", long 120°28'58", in NE 1/4 SE 1/4 sec.23, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 800 ft downstream from unnamed right bank tributary, 1,000 ft downstream from Duncan Creek Diversion Dam, and 20 mi northeast of Foresthill.

DRAINAGE AREA.--10.5 mi^2.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,210 ft above sea level, from topographic map.

REMARKS.--Natural flow affected by transmountain diversion through Duncan Creek Diversion Tunnel to French Meadows Reservoir (station 11427400). Maximum design flow of tunnel is 400 ft^3/s. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft^3/s, Dec. 22, 1964, gage height, 8.74 ft, in gage well, 10.0 ft, from floodmarks, from rating curve extended above 400 ft^3/s on basis of computation of peak flow over diversion dam; no flow at times in 1965-66.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	2.5	13	2560	69	16	15	13	12	6.1	1.6	.93
2	.85	2.2	13	1760	65	16	14	13	12	5.5	1.5	.93
3	.85	1.9	12	577	55	15	14	13	12	5.0	1.5	.93
4	.81	1.7	12	299	47	15	14	13	13	4.5	1.4	.92
5	.81	1.6	297	192	41	15	14	13	13	4.3	1.3	.87
6	.80	1.6	34	140	37	15	14	13	12	4.2	1.2	.87
7	.75	1.5	16	107	34	16	14	13	12	4.0	1.2	.84
8	.75	1.5	15	83	31	19	14	13	12	3.8	1.1	.81
9	.70	1.5	18	67	29	22	14	13	12	3.5	1.1	.81
10	.72	1.5	28	57	26	29	13	13	12	3.4	1.1	.79
11	.72	1.5	184	48	25	31	13	13	12	3.3	1.1	.84
12	.75	1.5	618	42	24	23	13	13	12	3.2	1.1	.83
13	.75	1.5	317	34	22	16	13	12	12	3.0	1.1	.81
14	.75	1.5	108	31	24	16	13	12	12	2.9	1.1	.81
15	.75	1.5	31	28	26	16	13	12	12	2.8	1.0	.98
16	.75	1.7	17	24	29	17	14	12	12	2.6	1.0	.99
17	.75	18	15	23	31	17	14	12	12	2.5	.97	.92
18	1.2	80	14	22	28	17	14	12	11	2.4	1.0	.87
19	1.6	14	14	20	27	18	54	12	10	2.3	1.1	6.8
20	1.0	14	13	e18	25	18	17	12	9.7	2.2	1.7	2.2
21	1.0	14	e13	e14	23	17	22	12	9.1	2.1	1.4	1.4
22	1.0	20	e13	e8.6	22	17	15	12	8.5	2.0	1.2	1.2
23	1.0	17	e13	43	20	18	36	12	8.1	2.0	1.1	1.1
24	3.3	14	12	26	19	18	16	12	7.6	2.2	1.2	1.1
25	4.1	13	12	157	18	17	15	12	7.2	2.0	1.1	1.1
26	1.9	12	16	168	19	17	14	12	6.8	1.9	1.1	1.1
27	1.6	11	22	128	20	17	14	12	6.4	1.8	1.1	1.1
28	1.5	12	17	96	17	16	14	12	6.1	1.8	1.0	.99
29	2.0	12	145	81	---	16	13	12	5.9	1.8	1.0	.93
30	2.9	12	481	69	---	15	13	12	6.1	1.6	.99	.93
31	2.8	---	821	62	---	15	---	12	---	1.6	.93	---
TOTAL	39.97	289.7	3354	6984.6	853	550	490	384	308.5	92.3	36.29	35.70
MEAN	1.29	9.66	108	225	30.5	17.7	16.3	12.4	10.3	2.98	1.17	1.19
MAX	4.1	80	821	2560	69	31	54	13	13	6.1	1.7	6.8
MIN	.70	1.5	12	8.6	17	15	13	12	5.9	1.6	.93	.79
AC-FT	79	575	6650	13850	1690	1090	972	762	612	183	72	71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

MEAN	2.13	8.83	22.9	31.4	22.4	19.1	15.6	29.4	11.1	3.79	1.37	1.06
MAX	17.3	76.1	244	225	237	80.3	91.7	149	53.1	21.9	5.87	3.61
(WY)	1983	1982	1965	1997	1986	1986	1982	1967	1983	1983	1983	1983
MIN	.061	1.15	.76	1.69	2.02	2.63	4.80	3.88	2.15	.44	.28	.090
(WY)	1966	1991	1977	1991	1974	1965	1974	1976	1965	1965	1977	1965

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	9626.37		13418.06			
ANNUAL MEAN	26.3		36.8		14.1	
HIGHEST ANNUAL MEAN					43.1	1982
LOWEST ANNUAL MEAN					2.16	1977
HIGHEST DAILY MEAN	821	Dec 31	2560	Jan 1	2560	Jan 1 1997
LOWEST DAILY MEAN	.69	Sep 11	.70	Oct 9	.00	Sep 10 1965
ANNUAL SEVEN-DAY MINIMUM	.73	Aug 30	.73	Oct 7	.00	Sep 10 1965
INSTANTANEOUS PEAK FLOW			3360	Jan 1	3640	Dec 22 1964
INSTANTANEOUS PEAK STAGE			8.59	Jan 1	8.74	Dec 22 1964
ANNUAL RUNOFF (AC-FT)	19090		26610		10200	
10 PERCENT EXCEEDS	21		36		16	
50 PERCENT EXCEEDS	11		12		5.3	
90 PERCENT EXCEEDS	.86		.95		.71	

e Estimated.

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'31", long 120°35'40", in NW 1/4 NW 1/4 sec.36, T.14 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 300 ft upstream from Middle Fork Powerplant, 3.7 mi upstream from Big Mosquito Creek, and 11 mi east of Foresthill.

DRAINAGE AREA.--87.8 mi^2.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,540 ft above sea level, from topographic map. Prior to May 15, 1980, at datum 5.00 ft higher. May 15, 1980, to Oct. 11, 1984, at datum 4.00 ft higher.

REMARKS.--Considerable regulation by French Meadows Reservoir (station 11427400) 11 mi upstream. Transbasin diversions from French Meadows Reservoir to Hell Hole Reservoir (station 11428700) through French Meadows Powerplant (station 11427200). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,900 ft^3/s, Jan. 2, 1997, gage height, 14.6 ft, from floodmark, from rating curve extended above 4,200 ft^3/s; minimum daily, 5.3 ft^3/s, Sept. 11, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	20	85	e3500	e395	e135	e105	e74	e48	e35	22	17
2	18	19	75	e7600	e360	e130	e103	e72	e48	35	22	17
3	17	18	65	e2200	e325	e130	e102	e70	e48	33	22	18
4	17	18	64	e950	e300	e125	e100	e68	e47	33	21	17
5	17	18	841	e660	e280	e125	e100	e67	e47	32	21	17
6	17	18	400	e500	e260	e120	e100	e65	e47	31	22	17
7	17	18	227	e415	e245	e120	e99	e64	e46	30	21	17
8	17	18	181	e370	e230	e120	e98	e62	e46	29	21	16
9	17	18	187	e325	e220	e135	e98	e62	e46	29	21	16
10	17	18	450	e295	e210	e160	e97	e61	e46	29	21	16
11	17	18	705	e265	e200	e195	e96	e59	e45	28	22	17
12	17	18	1550	e240	e195	e140	e96	e58	e45	28	21	17
13	17	17	967	e220	e190	e120	e95	e58	e45	28	21	17
14	17	17	573	e200	e180	e115	e95	e57	e45	28	21	17
15	17	18	378	e190	e190	e115	e94	e56	e45	28	19	18
16	17	19	282	e175	e195	e110	e94	e56	e44	27	18	18
17	17	100	233	e160	e210	e115	e94	e55	e44	26	18	18
18	18	277	198	e150	e200	e120	e94	e55	e43	26	18	18
19	20	76	174	e140	e180	e120	e300	e54	e43	26	18	25
20	18	86	160	e130	e165	e120	e365	e54	e42	25	20	25
21	18	63	184	e120	e160	e115	e150	e53	e42	24	20	20
22	17	171	172	e115	e155	e115	e180	e52	e41	24	19	19
23	17	153	151	e150	e150	e120	e250	e52	e40	24	18	18
24	20	90	135	e270	e150	e120	e115	e52	e40	24	18	18
25	27	71	128	e520	e145	e120	e98	e51	e39	24	18	18
26	21	61	215	e1190	e140	e115	e93	e50	e39	22	18	18
27	18	52	567	e900	e140	e110	e87	e50	e38	22	18	18
28	18	52	480	e710	e135	e110	e83	e50	e37	22	18	18
29	20	49	692	e595	---	e110	e79	e49	e36	22	18	18
30	24	47	1410	e510	---	e110	e77	e49	e36	22	18	18
31	23	---	1900	e445	---	e105	---	e49	---	22	17	---
TOTAL	570	1638	13829	24210	5905	3820	3637	1784	1298	838	610	541
MEAN	18.4	54.6	446	781	211	123	121	57.5	43.3	27.0	19.7	18.0
MAX	27	277	1900	7600	395	195	365	74	48	35	22	25
MIN	17	17	64	115	135	105	77	49	36	22	17	16
AC-FT	1130	3250	27430	48020	11710	7580	7210	3540	2570	1660	1210	1070

e Estimated.

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERPLANT, NEAR FORESTHILL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.0	48.1	93.8	181	170	211	179	173	94.2	36.0	19.3	17.2
MAX	270	262	446	781	969	696	601	600	451	184	33.2	29.5
(WY)	1966	1984	1997	1997	1986	1986	1982	1982	1995	1983	1983	1982
MIN	7.43	12.9	12.2	15.7	18.4	21.7	19.3	21.5	15.4	8.64	6.35	6.59
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	71766		58680			
ANNUAL MEAN	196		161		104	
HIGHEST ANNUAL MEAN					271	1982
LOWEST ANNUAL MEAN					14.3	1977
HIGHEST DAILY MEAN	3570	May 16	7600	Jan 2	7600	Jan 2 1997
LOWEST DAILY MEAN	17	Sep 11	16	Sep 8	5.3	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	17	Oct 3	17	Sep 4	5.5	Sep 8 1977
INSTANTANEOUS PEAK FLOW			13900	Jan 2	13900	Jan 2 1997
INSTANTANEOUS PEAK STAGE			14.60	Jan 2	14.60	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	142300		116400		75230	
10 PERCENT EXCEEDS	398		287		249	
50 PERCENT EXCEEDS	89		52		38	
90 PERCENT EXCEEDS	18		18		15	

11427770 MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'35", long 120°36'09", in SW 1/4 SE 1/4 sec.26, T.14 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank at Interbay Dam (revised), 3.3 mi upstream from Big Mosquito Creek, and 10.6 mi east of Foresthill.

DRAINAGE AREA.--89.1 mi^2.

PERIOD OF RECORD.--October 1965 to current year (since October 1985, operated as low-flow station only).

GAGE.--Acoustic-velocity meter system. Elevation of gage is 2,470 ft above sea level, from topographic map. Prior to February 1986, water-stage recorder at same site. March 1986 to September 1987, nonrecording gage and V-notch sharp-crested weir at same site and datum as previous gage.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400) and after Aug. 22, 1966, by Interbay Reservoir (usable capacity, 130 acre-ft between normal operating limits) 500 ft upstream. Water is diverted out of the basin from French Meadows Reservoir to Hell Hole Reservoir (station 11428700) and from Interbay Reservoir to Ralston Powerplant (station 11427765). Water is diverted into the basin from Hell Hole Reservoir to Middle Fork Powerplant (station 11428600) and through South Fork and Middle Fork Long Canyon Creek Diversion Tunnels (stations 11433060 and 11433080). See schematic diagram of Middle Fork American and Rubicon River basins. Beginning October 1985, only flows less than 35 ft^3/s are computed.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1966-85), 9,900 ft^3/s, Jan. 13, 1980, gage height, 7.95 ft; minimum daily, 1.0 ft^3/s, Oct. 25-30, 1966, Jan. 19, 1967.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	24	24	---	---	---	24	24	24	23	23	24
2	19	24	24	---	---	---	24	24	23	23	23	23
3	19	24	24	---	---	---	24	24	23	23	23	24
4	19	24	24	---	---	---	24	24	23	23	23	24
5	19	24	---	---	---	---	24	24	23	23	23	23
6	19	24	24	---	---	---	24	24	23	23	23	23
7	18	24	24	---	---	---	24	24	23	23	23	23
8	18	24	24	---	---	---	24	24	23	23	23	23
9	18	22	24	---	---	---	24	24	23	23	23	22
10	18	20	24	---	---	---	24	24	23	23	23	21
11	18	20	---	---	---	---	23	24	23	23	23	20
12	18	20	---	---	---	24	23	24	23	23	24	21
13	18	20	---	---	---	24	23	24	23	23	23	21
14	18	20	15	---	---	24	24	24	23	23	23	20
15	18	22	25	---	---	24	24	24	23	23	24	20
16	19	24	25	---	---	24	24	24	23	23	24	20
17	20	24	24	---	---	24	24	24	23	23	23	20
18	22	23	24	---	---	24	24	24	24	23	22	20
19	24	24	24	---	---	24	24	24	24	23	21	22
20	24	24	24	---	---	24	24	24	24	23	23	23
21	24	24	24	---	---	24	24	24	24	23	23	21
22	24	24	24	---	---	24	24	24	24	23	23	19
23	24	24	24	---	---	24	24	24	24	23	23	19
24	24	24	24	---	---	24	24	24	24	23	23	18
25	24	24	24	---	---	24	24	24	24	23	23	18
26	24	24	---	---	---	24	24	24	24	23	23	19
27	24	24	---	---	---	24	24	24	24	23	24	19
28	24	24	---	---	---	24	24	24	23	23	23	18
29	24	24	---	---	---	24	24	24	23	24	23	18
30	24	24	---	---	---	24	24	24	23	23	24	18
31	24	---	---	---	---	23	---	23	---	23	23	---
TOTAL	649	695	---	---	---	---	717	743	701	714	715	624
MEAN	20.9	23.2	---	---	---	---	23.9	24.0	23.4	23.0	23.1	20.8
MAX	24	24	---	---	---	---	24	24	24	24	24	24
MIN	18	20	---	---	---	---	23	23	23	23	21	18
AC-FT	1290	1380	---	---	---	---	1420	1470	1390	1420	1420	1240
a	17600	28890	51260	254	0	35370	37010	47530	33640	45900	55990	30650

a Diversion, in acre-feet, through Ralston Powerplant, provided by Placer County Water Agency.

11427770 MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1985, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	PEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.5	27.4	73.8	93.7	86.6	101	117	118	78.2	29.4	18.8	18.3
MAX	270	140	548	398	928	508	868	857	313	152	23.7	24.7
(WY)	1966	1984	1984	1980	1982	1983	1982	1982	1967	1983	1983	1983
MIN	5.84	6.38	6.22	6.15	9.32	7.61	11.6	11.1	11.3	7.52	5.86	5.68
(WY)	1978	1968	1968	1968	1968	1968	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	WATER YEARS 1966 - 1985	
ANNUAL MEAN	66.0	
HIGHEST ANNUAL MEAN	347	1982
LOWEST ANNUAL MEAN	10.0	1968
HIGHEST DAILY MEAN	8090	Feb 16 1982
LOWEST DAILY MEAN	1.0	Oct 25 1966
ANNUAL SEVEN-DAY MINIMUM	1.3	Oct 25 1966
INSTANTANEOUS PEAK FLOW	9900	Jan 13 1980
INSTANTANEOUS PEAK STAGE	7.95	Jan 13 1980
ANNUAL RUNOFF (AC-FT)	47810	
10 PERCENT EXCEEDS	141	
50 PERCENT EXCEEDS	22	
90 PERCENT EXCEEDS	11	

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'16", long 120°13'29", in NE 1/4 SE 1/4 sec.8, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank at tunnel intake 100 ft upstream from diversion dam on Rubicon River, 3.5 mi upstream from Rubicon Springs, and 6.4 mi southwest of Meeks Bay.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,533.23 ft above sea level (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 220 ft downstream from tunnel outlet at different datum.

REMARKS.--Tunnel diverts water from Rubicon River to Rockbound Lake which flows into Buck Island Lake. Water is then diverted via Buck-Loon tunnel (station 11428300) to Loon Lake (station 11429350) for power development. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	3.4	49	1180	53	23	114	215	447	67	8.4	.00
2	.01	2.2	46	1120	57	24	87	231	371	51	6.8	.00
3	.01	.77	35	827	47	23	72	257	308	55	5.3	.00
4	.01	.34	31	399	41	21	70	353	851	77	3.9	.00
5	.01	.14	569	213	37	21	80	434	657	95	3.6	.00
6	.01	.01	289	145	34	22	80	392	339	88	3.6	.00
7	.01	.00	122	116	33	25	82	395	299	78	3.6	.00
8	.01	.00	122	99	32	30	93	453	291	83	3.5	.00
9	.01	.00	154	87	31	37	89	493	278	95	3.0	.00
10	.01	.00	119	79	30	51	78	541	260	88	2.6	.00
11	.01	.00	104	71	29	72	78	534	219	77	2.2	.00
12	.01	.00	514	65	29	70	89	648	225	62	1.6	.00
13	.01	.00	399	61	28	53	108	656	204	48	.94	.00
14	.01	.00	180	57	29	56	131	588	209	45	.64	.00
15	.01	.00	104	53	32	78	184	543	261	48	.37	.00
16	.01	.00	75	49	34	96	259	518	259	53	.13	.00
17	.01	388	61	47	37	83	292	496	257	42	.01	.00
18	.01	942	49	45	33	77	325	475	267	36	.00	.00
19	.01	511	44	46	32	105	808	485	251	31	.00	.00
20	.01	486	41	45	32	135	676	480	234	28	.00	.00
21	.01	217	40	46	31	126	769	373	206	28	.00	.00
22	.01	468	42	45	29	127	601	305	178	27	.00	.00
23	.01	217	50	46	28	153	568	305	147	25	.00	.00
24	.01	128	53	64	25	197	367	312	126	21	.00	.00
25	.01	92	45	117	25	197	268	224	126	19	.00	.00
26	.01	73	49	123	25	216	302	211	118	16	.00	.00
27	.01	53	83	82	27	265	450	236	60	14	.00	.00
28	81	48	63	67	25	238	466	314	6.0	15	.00	.00
29	54	41	87	60	---	195	279	372	61	14	.00	.00
30	13	33	495	50	---	179	236	451	86	12	.00	.00
31	6.2	---	1000	48	---	155	---	494	---	10	.00	---
TOTAL	154.48	3703.86	5114	5552	925	3150	8101	12784	7601.0	1448	50.19	0.00
MEAN	4.98	123	165	179	33.0	102	270	412	253	46.7	1.62	.000
MAX	81	942	1000	1180	57	265	808	656	851	95	8.4	.00
MIN	.01	.00	31	45	25	21	70	211	6.0	10	.00	.00
AC-FT	306	7350	10140	11010	1830	6250	16070	25360	15080	2870	100	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

MEAN	16.7	50.6	47.2	49.8	44.0	66.2	156	360	313	111	18.5	10.6
MAX	149	277	204	222	187	196	295	655	789	519	168	91.0
(WY)	1983	1984	1965	1970	1986	1986	1989	1969	1983	1983	1983	1982
MIN	.000	.000	.000	.000	3.44	13.5	24.6	110	33.8	.77	.000	.000
(WY)	1964	1964	1977	1977	1991	1977	1975	1977	1976	1976	1964	1964

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	53026.91		48583.53			
ANNUAL MEAN	145		133		104	
HIGHEST ANNUAL MEAN					197	1982
LOWEST ANNUAL MEAN					30.5	1977
HIGHEST DAILY MEAN	1100	Feb 5	1180	Jan 1	1180	Jan 1 1997
LOWEST DAILY MEAN	.00	Nov 7	.00	Nov 7	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 7	.00	Nov 7	.00	Oct 1 1963
ANNUAL RUNOFF (AC-FT)	105200		96370		75170	
10 PERCENT EXCEEDS	422		439		336	
50 PERCENT EXCEEDS	58		49		27	
90 PERCENT EXCEEDS	.01		.00		.00	

11427960 RUBICON RIVER BELOW RUBICON DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'20", long 120°13'20", in NW 1/4 SW 1/4 sec.9, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, at outlet structure on diverson dam on Rubicon River, 3.3 mi upstream from Rubicon Springs, and 6.2 mi southwest of Meeks Bay.

PERIOD OF RECORD.--October 1991 to current year (low-flow records only). Unpublished records for water years 1964-91 available in files of the U.S. Geological Survey.

GAGE.--Differential-pressure gage and orifice control in outlet pipes. Auxiliary nonrecording gage 1,300 ft downstream at different datum. Datum of gage is 6,520 ft above sea level from topographic map. Prior to Sept. 4, 1991, nonrecording gage at site 1,300 ft downstream at different datum.

REMARKS.--Records not computed above 10 ft^3/s. Flow regulated by Rubicon Reservoir. Flow over the spillway bypasses this station. Most of the water is diverted through Rubicon-Rockbound Tunnel (station 11427940) to Rockbound Lake, which flows into Buck Island Lake. Water is then diverted via Buck-Loon tunnel (station 11428300) to Loon Lake (station 11429350) for power development. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	6.7	7.4	8.5	7.4	7.3	7.7	8.1	8.8	7.6	6.3	3.2
2	2.3	6.7	7.4	8.5	7.5	7.3	7.6	8.2	8.6	6.4	6.3	3.2
3	2.3	6.7	7.3	9.4	7.4	7.3	7.5	8.3	8.4	6.4	6.3	3.2
4	2.3	6.7	7.3	8.7	7.4	7.2	7.5	8.6	9.0	6.4	6.3	2.6
5	2.3	6.6	9.0	8.2	7.3	7.2	7.5	8.8	9.2	6.4	6.2	1.7
6	2.3	6.6	8.4	7.9	7.3	7.2	7.5	8.7	8.5	6.5	6.2	1.7
7	2.3	6.6	7.8	7.7	7.3	7.3	7.5	8.7	8.4	6.4	6.3	1.7
8	2.3	6.5	7.8	7.7	7.3	7.3	7.6	8.9	8.4	6.4	6.2	1.7
9	2.3	6.5	7.9	7.6	7.3	7.3	7.5	9.0	8.3	6.5	6.2	1.7
10	2.2	6.5	7.7	7.6	7.3	7.4	7.5	9.1	8.3	6.4	6.2	1.7
11	2.2	6.5	7.6	7.5	7.3	7.5	7.5	9.1	8.1	6.4	6.2	1.7
12	2.2	6.5	8.9	7.5	7.3	7.5	7.5	9.3	8.1	6.4	6.2	1.7
13	2.2	6.5	8.7	7.5	7.3	7.4	7.6	9.3	8.1	6.4	6.2	1.7
14	2.2	6.4	8.0	7.5	7.3	7.4	7.8	9.2	8.1	6.4	6.2	1.7
15	2.2	6.4	7.7	7.5	7.3	7.5	8.0	9.1	8.3	6.4	6.2	1.7
16	2.2	6.4	7.5	7.4	7.3	7.6	8.3	9.0	8.3	6.4	6.2	1.7
17	2.2	7.7	7.4	7.4	7.3	7.6	8.4	9.0	8.3	6.4	6.2	1.7
18	2.2	8.8	7.4	7.4	7.3	7.5	8.5	8.9	8.2	6.4	6.1	1.6
19	2.2	8.7	7.3	7.4	7.3	7.7	9.4	9.0	8.3	6.4	6.1	1.3
20	2.2	8.8	7.3	7.4	7.3	7.8	9.3	8.9	8.2	6.4	6.1	1.3
21	2.2	8.2	7.3	7.4	7.3	7.8	9.4	8.7	8.1	6.3	4.8	1.3
22	1.9	8.8	7.3	7.4	7.3	7.8	9.1	8.5	8.0	6.4	3.2	1.3
23	1.3	8.2	7.4	7.4	7.3	7.9	9.0	8.5	7.8	6.3	3.2	1.3
24	1.3	7.8	7.4	7.5	7.3	8.1	8.6	8.5	7.7	6.3	3.2	1.3
25	1.4	7.6	7.3	7.8	7.3	8.1	8.3	8.2	7.7	6.3	3.2	1.3
26	1.4	7.5	7.3	7.8	7.3	8.2	8.4	8.1	7.8	6.3	3.2	1.3
27	1.4	7.4	7.5	7.6	7.3	8.3	8.8	8.2	7.9	6.3	3.2	1.3
28	4.8	7.4	7.4	7.5	7.3	8.3	8.9	8.5	8.4	6.3	3.2	1.3
29	7.1	7.3	7.5	7.5	---	8.1	8.4	8.7	8.7	6.3	3.2	1.3
30	6.8	7.3	8.8	7.4	---	8.0	8.2	8.8	8.8	6.3	3.2	1.3
31	6.8	---	9.0	7.4	---	7.9	---	8.9	---	6.3	3.2	---
TOTAL	81.3	216.3	240.0	239.0	204.9	236.8	244.8	270.8	248.8	198.8	161.0	51.5
MEAN	2.62	7.21	7.74	7.71	7.32	7.64	8.16	8.74	8.29	6.41	5.19	1.72
MAX	7.1	8.8	9.0	9.4	7.5	8.3	9.4	9.3	9.2	7.6	6.3	3.2
MIN	1.3	6.4	7.3	7.4	7.3	7.2	7.5	8.1	7.7	6.3	3.2	1.3
AC-FT	161	429	476	474	406	470	486	537	493	394	319	102

CAL YR 1996 TOTAL 2429.0 MEAN 6.64 MAX 9.3 MIN 1.3 AC-FT 4820
WTR YR 1997 TOTAL 2394.0 MEAN 6.56 MAX 9.4 MIN 1.3 AC-FT 4750

11428300 BUCK-LOON TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'17", long 120°15'21", in SE 1/4 NW 1/4 sec.6, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank at tunnel intake near left abutment of diversion dam, 7.4 mi southwest of Meeks Bay.

PERIOD OF RECORD.--November 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,425.0 ft above sea level (levels by Sacramento Municipal Utility District).

REMARKS.--Tunnel diverts water from Buck Island Lake and discharges into Loon Lake (station 11429350). Buck Island Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel (station 11427940). Gates are closed at the tunnel entrance during the summer and opened during the fall to raise the level of Buck Island Lake for recreational purposes. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	5.1	50	1090	58	27	174	298	549	71	10	.14
2	.23	4.3	59	1100	67	29	123	308	491	60	8.0	.14
3	.23	3.6	48	957	60	28	88	332	402	53	6.1	.14
4	.23	2.8	40	623	51	25	75	434	825	58	4.6	.14
5	.23	2.2	538	340	44	24	80	552	871	69	3.4	.14
6	.23	1.6	556	211	39	24	87	535	511	76	2.7	.14
7	.23	1.2	237	155	37	26	88	528	383	73	2.3	.14
8	.23	1.1	159	129	38	30	101	580	362	69	2.0	.14
9	.23	.86	217	107	35	35	110	627	339	74	1.7	.14
10	.23	.69	218	90	34	46	97	682	327	76	1.6	.14
11	.23	.54	179	79	33	66	89	671	278	72	1.4	.14
12	.23	.45	612	73	33	77	94	751	266	65	1.2	.14
13	.23	.40	685	67	31	68	121	803	255	57	1.1	.14
14	.23	.31	358	59	31	60	164	739	236	50	.91	.14
15	.23	.42	187	56	33	73	230	678	300	47	.60	.14
16	.23	.62	118	53	36	106	325	649	313	48	.49	.14
17	.23	212	86	49	41	119	409	628	304	45	.49	.14
18	.23	1030	68	46	39	94	446	622	314	39	.49	.14
19	.23	752	59	46	37	113	854	600	302	34	.49	.14
20	.23	688	54	50	36	167	890	600	282	30	.48	.14
21	43	378	71	54	35	175	898	514	253	28	.35	.14
22	18	590	71	63	33	172	833	419	219	28	.14	.14
23	5.1	401	66	62	32	198	721	384	182	27	.14	.14
24	1.9	218	64	62	29	264	560	447	147	25	.14	.13
25	1.4	140	59	138	28	282	377	321	54	22	.14	.13
26	.61	99	63	209	28	289	376	270	18	19	.14	.13
27	.06	72	116	133	31	357	533	278	79	17	.14	.13
28	.00	60	101	86	31	350	625	361	44	17	.14	.13
29	.02	51	109	73	---	289	438	443	34	17	.14	.13
30	2.0	43	492	62	---	255	333	517	60	16	.14	.13
31	5.4	---	1000	54	---	232	---	582	---	14	.14	---
TOTAL	82.10	4760.19	6740	6376	1060	4100	10339	16153	9000	1396	51.80	4.13
MEAN	2.65	159	217	206	37.9	132	345	521	300	45.0	1.67	.14
MAX	43	1030	1000	1100	67	357	898	803	871	76	10	.14
MIN	.00	.31	40	46	28	24	75	270	18	14	.14	.13
AC-FT	163	9440	13370	12650	2100	8130	20510	32040	17850	2770	103	8.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

MEAN	21.7	68.7	64.5	68.1	59.0	87.5	200	460	391	131	20.3	13.2
MAX	182	405	264	297	254	239	356	861	994	643	197	116
(WY)	1983	1984	1965	1970	1986	1989	1989	1969	1983	1995	1983	1982
MIN	.000	.000	.000	.25	5.46	19.1	36.8	145	31.8	.97	.000	.000
(WY)	1964	1964	1977	1991	1991	1977	1967	1977	1976	1987	1964	1964

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	67301.68		60062.22			
ANNUAL MEAN	184		165		132	
HIGHEST ANNUAL MEAN					245	1982
LOWEST ANNUAL MEAN					39.2	1977
HIGHEST DAILY MEAN	1160	May 16	1100	Jan 2	1240	Dec 23 1964
LOWEST DAILY MEAN	.00	Oct 28	.00	Oct 28	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.23	Oct 2	.13	Sep 24	.00	Oct 1 1963
ANNUAL RUNOFF (AC-FT)	133500		119100		95770	
10 PERCENT EXCEEDS	541		550		419	
50 PERCENT EXCEEDS	75		58		35	
90 PERCENT EXCEEDS	.24		.14		.05	

11428400 LITTLE RUBICON RIVER BELOW BUCK ISLAND DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'18", long 120°15'19", in SW 1/4 NW 1/4 sec.6, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, at outlet structure on Buck Island Diversion Dam, 7.4 mi southwest of Meeks Bay.

DRAINAGE AREA.--6.00 mi^2.

PERIOD OF RECORD.--October 1990 to current year (low-flow records only). Unpublished records for water years 1964-90 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,420 ft above sea level, from topographic map. Aug. 14, 1964, to Oct. 4, 1973, nonrecording gage at site 60 ft downstream at different datum. Nonrecording gage at present site Oct. 4, 1973, to Aug. 26, 1986, at different datum and Aug. 27, 1986, to Sept. 30, 1990, at same datum.

REMARKS.--No records computed above 2 ft^3/s. Flow regulated by Buck Island Reservoir. Flow over the spillway bypasses this station. Most of the water is diverted at Buck Island Reservoir via Buck-Loon Tunnel (station 11428300) to Loon Lake (station 11429350). Buck Island Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel (station 11427940). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.2	1.2	---	1.2	1.3	1.4	1.2	1.3	1.2	1.1	1.2
2	1.2	1.2	1.2	---	1.2	1.3	1.4	1.2	1.3	1.2	1.1	1.2
3	1.2	1.2	1.2	---	1.2	1.3	1.3	1.2	1.3	1.2	1.0	1.2
4	1.2	1.1	1.2	1.4	1.2	1.3	1.3	1.3	---	1.2	1.1	1.2
5	1.2	1.1	1.4	1.3	1.2	1.3	1.3	1.3	---	1.2	1.2	1.2
6	1.2	1.1	1.5	1.2	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.2
7	1.2	1.1	1.3	1.1	1.2	1.3	1.3	1.3	1.3	1.2	1.3	1.1
8	1.2	1.1	1.3	1.1	1.2	1.3	1.3	1.3	1.3	1.2	1.3	1.1
9	1.2	1.1	1.3	1.1	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.1
10	1.2	1.1	1.3	1.1	1.2	1.3	1.3	1.4	1.2	1.2	1.2	1.1
11	1.2	1.1	1.3	1.1	1.2	1.3	1.3	1.4	1.2	1.2	1.2	1.1
12	1.2	1.1	1.5	1.1	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.1
13	1.2	1.1	1.5	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.1
14	1.2	1.1	1.4	1.1	1.2	1.3	1.4	1.2	1.2	1.2	1.2	1.2
15	1.2	1.1	1.3	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2
16	1.2	1.1	1.2	1.1	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2
17	1.2	---	1.2	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2
18	1.2	---	1.2	1.1	1.1	1.3	1.3	1.2	1.2	1.2	1.2	1.2
19	1.2	1.6	1.2	1.1	1.1	1.3	---	1.2	1.2	1.2	1.2	1.2
20	1.2	1.3	1.2	1.1	1.1	1.4	---	1.2	1.2	1.1	1.2	1.2
21	1.2	1.2	1.2	1.1	1.1	1.4	---	1.2	1.2	1.1	1.2	1.2
22	1.1	1.3	1.2	1.0	1.1	1.4	---	1.1	1.2	1.1	1.2	1.2
23	1.2	1.2	1.2	1.0	1.1	1.4	1.4	1.1	1.2	1.1	1.2	1.2
24	1.2	1.1	1.2	1.1	1.1	1.5	1.3	1.1	1.1	1.1	1.2	1.2
25	1.1	1.0	1.2	1.1	1.1	1.5	1.3	1.1	1.1	1.1	1.2	1.2
26	1.1	1.1	1.2	1.1	1.2	1.5	1.3	1.0	1.3	1.1	1.2	1.2
27	1.1	1.2	1.2	1.2	1.3	1.5	1.3	1.1	e1.3	1.1	1.2	1.2
28	1.1	1.2	1.2	1.2	1.3	1.5	1.3	1.3	e1.3	1.1	1.2	1.2
29	1.2	1.2	1.2	1.2	---	1.5	1.3	1.3	e1.3	1.1	1.2	1.2
30	1.2	1.2	1.4	1.2	---	1.4	1.2	1.3	e1.3	1.1	1.2	1.2
31	1.2	---	---	1.2	---	1.4	---	1.3	---	1.1	1.2	---
TOTAL	36.7	---	---	---	33.0	42.1	---	38.0	---	36.0	36.9	35.3
MEAN	1.18	---	---	---	1.18	1.36	---	1.23	---	1.16	1.19	1.18
MAX	1.2	---	---	---	1.3	1.5	---	1.4	---	1.2	1.3	1.2
MIN	1.1	---	---	---	1.1	1.3	---	1.0	---	1.1	1.0	1.1
AC-FT	73	---	---	---	65	84	---	75	---	71	73	70

e Estimated.

11428700 HELL HOLE RESERVOIR NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'54", long 120°24'50", in SE 1/4 NW 1/4 sec.16, T.14 N., R.14 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 0.3 mi upstream from Hell Hole Dam on Rubicon River and 15.6 mi west of Meeks Bay.

DRAINAGE AREA.--114 mi^2.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Placer County Water Agency).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 6, 1965. Usable capacity, 207,342 acre-ft between elevations 4,287.65 ft, invert of river outlet, and 4,630.0 ft, crest of ogee spillway. Dead storage 248 acre-ft. Reservoir is used to store water for hydroelectric power. Water is diverted into reservoir from French Meadows Reservoir (11427400) on the Middle Fork American River through French Meadows Powerplant (station 11427200). Water is diverted out of reservoir to the Middle Fork American River though Middle Fork Powerplant. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 217,400 acre-ft, Jan. 2, 1997, elevation, 4,637.7 ft; minimum since reservoir first filled, 37,499 acre-ft, Mar. 23, 1973, elevation, 4,428.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 217,400 acre-ft, Jan. 2, elevation, 4,637.7 ft; minimum, 100,300 acre-ft, Sept. 20, elevation, 4,522.7 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Placer County Water Agency in 1966)

4,340	5,220	4,400	24,200	4,550	122,700
4,360	9,840	4,450	49,600	4,600	171,900
4,380	16,200	4,500	83,000	4,650	233,400

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113600	107500	114000	199200	207200	190900	180400	197600	200800	197300	164800	121100
2	113900	106700	113900	213100	206800	190300	180100	198200	200800	196800	163500	119700
3	114100	106100	113800	210000	206600	189600	179900	198900	201000	196200	162000	118100
4	114500	105600	113900	209500	206100	188900	179000	199800	203000	195300	160700	116600
5	114700	105100	119700	209200	205700	188100	178600	200600	203800	194200	159500	115400
6	115000	104700	120800	209100	205200	187200	177700	201600	203800	193200	158100	114000
7	115300	104200	120800	209100	204800	186400	177100	202200	203600	192500	156700	112500
8	115600	103800	121200	209100	204300	185600	176600	203000	203600	191300	155400	111100
9	115900	103300	121700	209000	203700	184800	176200	204100	203400	190200	154100	109500
10	116100	103100	124200	209000	203100	184000	175600	205000	203200	189100	152700	108100
11	116600	102500	128200	209000	202500	183600	175100	205300	203200	187900	151400	106700
12	117100	102100	135800	208800	201900	183000	175300	206000	203000	186600	150000	105200
13	117400	101700	139200	208800	201300	182800	174800	206100	202900	185600	148700	103700
14	117700	101400	140700	208700	200600	181900	174900	206100	203000	184500	147300	103000
15	118100	101100	141200	208700	200000	181200	175400	206000	203000	183200	146000	102500
16	118400	100900	141500	208700	199400	180800	175800	206000	202900	182200	144600	102100
17	117700	102800	141600	208700	199000	180300	176600	205700	202700	181200	143300	101400
18	117100	109700	141600	208700	198600	179700	177300	205500	202400	180100	141900	101000
19	116600	110700	141400	208700	197800	179400	180500	205200	201900	179700	140600	100400
20	116000	111200	141200	208300	197200	179000	182100	205000	201600	179000	139100	100300
21	115400	111800	141200	208100	196600	178600	184500	204300	201300	177800	137600	100700
22	114500	113900	141100	207700	195900	178500	186400	203700	200900	176700	136000	101100
23	113700	114600	140800	206500	195300	178400	189400	203500	200400	175600	134500	101400
24	113000	114800	140400	206500	194400	178600	190700	203000	200000	174300	133100	101700
25	112200	114600	139900	208600	193700	178700	191500	202200	199700	173200	131600	102100
26	111400	114200	140300	208200	193100	179300	193000	201400	199300	171900	130000	102500
27	110400	114200	141200	208000	192400	179600	194400	201100	198900	170700	128600	102900
28	109600	114100	141000	208300	191600	179900	195600	201100	198700	169500	127100	103200
29	109100	114000	143200	208000	---	180100	196400	200800	198400	168300	125600	103600
30	108600	113800	148800	207700	---	180100	197100	200600	197800	167200	124000	103900
31	108200	---	158300	207300	---	180800	---	200600	---	166100	122500	---
MAX	118400	114800	158300	213100	207200	190900	197100	206100	203800	197300	164800	121100
MIN	108200	100900	113800	199200	191600	178400	174800	197600	197800	166100	122500	100300
a	4532.5	4539.4	4587.6	4629.8	4617.0	4607.8	4621.5	4624.4	4622.1	4594.8	4549.8	4527.2
b	-5100	+5600	+44500	+49000	-15700	-10800	+16300	+3500	-2800	-31700	-43600	-18600

CAL YR 1996 b +35300
WTR YR 1997 b -9400

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'24", long 120°24'25", in NE 1/4 NE 1/4 sec.21, T.14 N., R.14 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 600 ft downstream from outlet of dam, and 15.3 mi west of Meeks Bay.

DRAINAGE AREA.--114 mi^2.

PERIOD OF RECORD.--November 1965 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 4,231.52 ft above sea level (levels by Placer County Water Agency).

REMARKS.--Flow completely regulated by Hell Hole Reservoir (station 11428700) 600 ft upstream from station. During years when Hell Hole Dam spills, records include flow which bypasses the station. Transbasin diversions upstream from station through Buck-Loon Tunnel (station 11428300) to Loon Lake Reservoir (station 11429350); from Middle Fork American River basin through tunnel from French Meadows Reservoir (station 11427400) to Hell Hole Reservoir; from Hell Hole Reservoir through tunnel to Middle Fork Powerplant (station 11428600). Diversion began Sept. 8, 1966. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft^3/s, Jan. 2, 1997, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	21	23	184	33	29	15	15	23	26	23	23
2	29	21	23	17100	33	29	14	14	23	26	23	22
3	29	21	22	5990	32	29	14	14	24	26	23	22
4	29	21	23	2640	31	29	11	15	24	26	23	22
5	29	21	39	1980	31	29	10	14	24	26	23	22
6	29	21	28	1690	30	29	10	14	24	26	23	22
7	29	21	24	1620	30	29	10	13	24	25	23	22
8	29	22	23	1560	30	29	11	13	24	25	23	22
9	29	22	23	1470	29	29	14	13	24	25	23	22
10	29	22	32	1410	29	29	13	13	24	25	23	22
11	29	22	37	1350	29	29	13	12	24	25	23	22
12	29	22	55	1340	29	16	13	12	24	25	23	22
13	29	22	36	1210	29	10	13	12	24	25	23	22
14	29	22	29	1080	29	10	13	16	25	25	22	22
15	29	22	23	1100	29	10	14	23	25	25	22	22
16	29	22	18	1050	29	10	14	22	25	25	22	22
17	25	24	17	1030	30	10	14	22	25	25	22	22
18	23	26	14	1030	30	10	14	22	24	23	23	22
19	23	24	13	1020	29	10	17	22	24	22	23	22
20	23	24	13	890	29	10	16	23	24	22	23	39
21	23	24	16	482	29	10	16	23	24	22	23	48
22	22	25	24	267	29	11	15	23	24	22	23	48
23	22	23	19	23	29	11	15	23	24	22	23	40
24	22	22	17	32	29	11	14	23	24	22	23	31
25	22	22	16	344	29	11	13	23	25	22	23	31
26	22	22	22	796	29	11	13	23	25	22	23	31
27	21	22	41	302	29	11	13	23	26	22	23	30
28	21	22	43	435	29	11	15	23	26	22	23	30
29	21	22	58	410	---	10	15	23	26	22	23	30
30	21	22	68	186	---	10	15	23	26	22	23	30
31	21	---	78	48	---	11	---	23	---	22	23	---
TOTAL	796	669	917	50069	832	533	407	577	732	740	709	807
MEAN	25.7	22.3	29.6	1615	29.7	17.2	13.6	18.6	24.4	23.9	22.9	26.9
MAX	29	26	78	17100	33	29	17	23	26	26	23	48
MIN	21	21	13	23	29	10	10	12	23	22	22	22
AC-FT	1580	1330	1820	99310	1650	1060	807	1140	1450	1470	1410	1600
a	17390	26470	42410	18340	51110	52710	33710	46910	33160	46280	56160	30070

a Diversion, in acre-feet, from Hell Hole Reservoir through Middle Fork Powerplant, provided by Placer County Water Agency.

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.8	17.1	25.5	66.3	22.5	32.4	22.7	71.5	105	40.6	14.9	16.4
MAX	40.6	25.8	318	1615	172	478	129	1053	1007	303	23.6	36.7
(WY)	1989	1984	1982	1997	1982	1986	1982	1996	1995	1983	1995	1989
MIN	7.14	7.51	7.57	6.24	6.34	6.33	7.78	7.92	7.74	6.93	6.50	6.43
(WY)	1974	1977	1989	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	42093		57788			
ANNUAL MEAN	115		158		38.4	
HIGHEST ANNUAL MEAN					158	1997
LOWEST ANNUAL MEAN					7.11	1977
HIGHEST DAILY MEAN	8720	May 16	17100	Jan 2	17100	Jan 2 1997
LOWEST DAILY MEAN	12	Jan 4	10	Mar 13	.00	Aug 25 1966
ANNUAL SEVEN-DAY MINIMUM	12	Jan 4	10	Mar 13	.00	Aug 25 1966
INSTANTANEOUS PEAK FLOW			28800	Jan 2	28800	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	83490		114600		27850	
TOTAL DIVERSION (AC-FT) a	459800		454700			
10 PERCENT EXCEEDS	42		42		27	
50 PERCENT EXCEEDS	22		23		18	

a Diversion, in acre-feet, from Hell Hole Reservoir through Middle Fork Powerplant, provided by Placer County Water Agency.

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.--Lat 38°58'59", long 120°19'22", in SE 1/4 SW 1/4 sec.8, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerplant intake structure, 1.6 mi southwest of right bank end of Loon Lake Dam on Gerle Creek, and 10 mi southwest of Meeks Bay.

DRAINAGE AREA.--7.96 mi^2.

PERIOD OF RECORD.--December 1963 to current year.
CHEMICAL ANALYSES.--June to September 1996.

REVISED RECORDS.--WDR CA-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Sept. 23, 1975, at site 1.6 mi northeast on right bank end of Loon Lake Dam at same datum.

REMARKS.--Reservoir is formed by an earthfill dam completed Dec. 27, 1963; storage began Dec. 5, 1963. Prior to September 1962, reservoir was formed by granite-block dam built in 1884, capacity, 8,000 acre-ft. Usable capacity, 73,868 acre-ft, between elevations 6,325 ft, invert of fishwater release valve, and 6,410 ft, crest of spillway. Dead storage, 2,300 acre-ft. Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon Tunnel (stations 11427940, 11428300). Records, including extremes, represent total contents. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 77,700 acre-ft, June 6, 1969, elevation, 6,411.1 ft; minimum since reservoir first filled, 3,262 acre-ft, Nov. 8, 9, 1988, elevation, 6,328.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 76,056 acre-ft, June 4, elevation, 6,409.92 ft; minimum, 17,067 acre-ft, Mar. 18, elevation, 6,356.74 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District recomputed October 1991)

6,330	3,478	6,370	28,323
6,340	7,116	6,390	50,058
6,350	12,469	6,412	78,983
6,360	19,570		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52039	45422	43919	63399	66895	37180	23609	46826	75832	75469	66522	42435
2	52003	44045	42765	67484	65829	35489	23890	47547	75707	75581	66255	40916
3	51978	42742	41353	69452	65192	34381	24119	48307	75525	75483	65935	39541
4	51941	41174	39894	70660	64808	33657	24349	49311	76056	75428	65378	38522
5	51917	39651	41746	71192	64346	32685	24598	50565	75986	75400	64742	37719
6	51892	38065	43163	71384	64082	31048	24866	51758	75651	75177	64240	37213
7	51843	36923	43689	71370	63753	29138	25144	52604	75553	74913	63189	36741
8	51795	36613	44080	71370	63176	27397	25451	53887	75721	74274	62260	36315
9	51746	36219	44760	71411	62979	25542	25751	55295	75832	73790	62221	36230
10	51709	35838	45666	71384	62574	24022	26052	56778	75609	73237	62182	36187
11	51672	35437	46615	71302	61869	22795	26328	58250	75539	72920	61895	36155
12	51624	34787	48940	71124	60922	21852	26605	59260	75693	72700	60806	35869
13	51575	34350	50893	70756	59350	20227	26967	60224	75734	72618	59530	35827
14	51550	34318	51721	70497	58123	18830	27472	61492	75734	72356	58748	35774
15	51489	34308	52100	70116	56981	18158	28085	62691	75762	71863	57868	35743
16	51465	34267	52260	69709	55947	18304	29022	63622	75790	71904	57424	35711
17	51416	35227	52198	69506	54621	17567	29915	64729	75553	71671	57246	35647
18	51392	37633	51966	69411	53640	17067	30750	65975	75874	71083	56463	35574
19	51355	39222	51660	69208	52444	17238	33042	67176	75776	70620	55809	35574
20	51319	39828	51453	69195	51087	17574	35185	68398	75456	70565	55132	35500
21	51307	40883	51721	69154	50118	17664	37374	69316	75665	70021	53664	35458
22	51307	42515	51733	69492	49179	17349	39244	69791	75581	69668	52358	35426
23	50759	43426	51709	69370	47748	17417	40816	70293	75623	69682	51246	35384
24	49925	43942	51636	69249	46075	17990	41454	71083	75400	69316	50590	35353
25	49167	44241	51575	69777	44011	18566	42073	71767	75469	68627	50190	35321
26	48509	44126	51660	70388	42220	19135	42696	72288	75456	68385	49167	35279
27	47796	43392	52003	70347	41028	20163	43747	72810	75539	68196	48176	35237
28	47641	43529	52064	69709	39255	21127	44888	73555	75595	68169	47677	35185
29	47641	43609	52530	68978	---	21827	45340	73859	75609	67927	46544	35143
30	47665	43678	54334	68533	---	22538	46110	74635	75734	67793	45445	35111
31	46897	---	57614	67901	---	23149	---	75386	---	66855	44057	---
MAX	52039	45422	57614	71411	66895	37180	46110	75386	76056	75581	66522	42435
MIN	46897	34267	39894	63399	39255	17067	23609	46826	75400	66855	44057	35111
a	6387.35	6384.58	6396.10	6403.97	6380.64	6364.31	6386.68	6409.44	6409.69	6403.19	6384.91	6376.78
b	-5167	-3219	+13936	+10287	-28646	-16106	+22961	+29276	+348	-8879	-22798	-8946

CAL YR 1996 MAX 77092 MIN 34267 b +15980
WTR YR 1997 MAX 76056 MIN 17067 b -16953

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'20", long 120°18'52", in NE 1/4 NE 1/4 sec.5, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 0.3 mi downstream from Loon Lake Dam, and 11 mi southwest of Meeks Bay.

DRAINAGE AREA.--8.01 mi^2.

PERIOD OF RECORD.--July 1910 to April 1914 (fragmentary), August 1962 to current year. Prior to August 1962, published as "near Rubicon Springs."

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 6,250 ft above sea level, from topographic map. Prior to August 1962, nonrecording gage at site 1,400 ft upstream at different datum.

REMARKS.--Records good. Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam, which was completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Buck-Loon Tunnel (station 11428300). Since August 1971, most of the water is diverted past the station via Loon Lake Powerplant (station 11429340) and returns to Gerle Creek at Gerle Creek Dam. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft^3/s, unregulated, Feb. 1, 1963, gage height, 12.65 ft, from rating curve extended above 970 ft^3/s on basis of slope-area measurement of peak flow; no flow Oct. 15, 1913. Maximum discharge since construction of Loon Lake Dam in 1963, 1,050 ft^3/s, June 5, 1969, gage height, 9.03 ft; minimum daily, 3.6 ft^3/s, Sept. 27, 28, Nov. 3, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	8.9	10	42	11	9.2	9.4	9.2	9.8	9.5	9.2	9.5
2	8.9	8.9	9.3	31	11	9.2	9.2	9.2	9.4	9.5	9.2	9.8
3	8.9	8.6	9.2	13	11	9.2	9.3	9.0	11	9.5	9.2	10
4	8.9	8.6	9.7	12	11	9.0	9.6	9.1	14	9.5	9.5	10
5	8.9	8.6	13	12	11	8.9	9.5	9.2	9.7	9.5	9.5	10
6	8.9	8.6	9.7	12	11	8.9	9.2	9.2	9.6	9.3	9.5	10
7	11	8.5	9.5	12	11	8.9	9.4	9.2	9.2	9.2	9.4	9.8
8	13	8.6	9.9	12	11	8.7	9.4	9.2	9.2	9.2	9.2	9.8
9	13	8.6	11	11	11	8.6	9.3	9.2	9.2	9.2	9.8	9.8
10	13	8.6	11	11	11	8.7	9.3	9.2	9.2	9.2	10	9.8
11	13	8.8	14	11	11	9.0	9.4	9.5	9.7	9.2	10	9.8
12	13	9.2	17	11	10	9.2	9.5	9.5	10	9.2	9.8	9.8
13	13	8.9	13	11	10	8.9	9.7	9.5	9.5	9.3	9.8	9.8
14	13	8.9	11	11	10	9.0	9.9	9.3	9.6	9.5	9.6	9.8
15	13	8.9	10	11	10	9.0	9.9	9.2	9.6	9.5	9.5	9.8
16	13	9.0	10	11	10	9.1	9.7	9.2	9.5	9.5	9.5	9.8
17	13	15	10	11	10	9.1	9.8	9.3	9.5	9.5	9.5	9.8
18	13	12	10	11	10	9.1	10	9.2	10	9.5	9.5	9.8
19	13	10	10	11	10	9.2	12	9.2	10	9.4	9.5	9.8
20	13	9.3	10	11	10	9.1	11	9.2	10	9.4	9.5	9.8
21	13	10	11	11	10	9.1	11	9.3	10	9.5	9.5	9.8
22	13	11	11	11	10	9.4	10	9.4	11	9.5	9.5	9.8
23	13	10	11	11	9.9	9.5	12	10	9.8	9.5	9.5	9.8
24	12	9.5	10	11	9.5	9.9	10	9.5	9.6	9.4	9.6	9.8
25	8.7	9.5	10	13	8.8	10	9.4	9.5	9.5	9.3	11	10
26	8.9	9.5	11	12	8.8	10	9.6	9.5	9.5	9.2	9.9	10
27	8.9	9.2	12	12	9.5	10	9.6	9.5	9.8	9.2	9.8	10
28	8.9	9.3	10	12	9.5	9.9	9.5	9.5	10	9.2	9.8	9.8
29	9.1	9.2	13	11	---	9.8	9.2	9.5	10	9.2	9.8	9.8
30	9.1	9.2	15	11	---	9.9	9.2	9.5	10	9.2	9.7	9.8
31	9.1	---	19	11	---	9.6	---	9.5	---	9.2	9.5	---
TOTAL	347.1	282.9	350.3	404	287.0	287.1	294.0	289.5	296.9	290.0	298.3	295.1
MEAN	11.2	9.43	11.3	13.0	10.3	9.26	9.80	9.34	9.90	9.35	9.62	9.84
MAX	13	15	19	42	11	10	12	10	14	9.5	11	10
MIN	8.7	8.5	9.2	11	8.8	8.6	9.2	9.0	9.2	9.2	9.2	9.5
AC-FT	688	561	695	801	569	569	583	574	589	575	592	585
a	4160	13910	8060	11720	29860	25950	3430	5340	17830	10730	20930	7360

a Diversion, in acre-feet, to Loon Lake Powerplant, provide by Sacramento Municipal Utility District.

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1970, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	112	132	165	74.7	103	192	133	63.0	390	341	232	115
MAX	190	356	343	134	261	347	244	209	721	493	351	338
(WY)	1970	1966	1966	1968	1970	1970	1967	1969	1969	1967	1969	1967
MIN	7.53	7.93	8.95	8.41	9.13	9.57	8.75	10.5	185	196	50.8	8.20
(WY)	1965	1968	1969	1965	1968	1968	1965	1968	1966	1965	1965	1970

SUMMARY STATISTICS	WATER YEARS 1965 - 1970	
ANNUAL MEAN	171	
HIGHEST ANNUAL MEAN	217	1970
LOWEST ANNUAL MEAN	127	1965
HIGHEST DAILY MEAN	1030	Jun 5 1969
LOWEST DAILY MEAN	6.0	Dec 2 1969
ANNUAL SEVEN-DAY MINIMUM	6.4	Dec 10 1969
INSTANTANEOUS PEAK FLOW	1050	Jun 5 1969
INSTANTANEOUS PEAK STAGE	9.03	Jun 5 1969
ANNUAL RUNOFF (AC-FT)	124100	
10 PERCENT EXCEEDS	394	
50 PERCENT EXCEEDS	28	
90 PERCENT EXCEEDS	8.1	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1997, BY WATER YEAR (WY)

MEAN	8.82	8.68	9.35	9.03	8.98	9.02	8.90	10.8	8.85	8.88	8.48	8.50
MAX	13.3	9.97	23.9	13.0	12.8	11.6	10.8	48.7	12.0	15.7	10.2	11.2
(WY)	1993	1995	1984	1997	1996	1996	1996	1996	1983	1995	1974	1974
MIN	3.93	4.00	4.45	4.61	5.12	4.67	4.27	4.64	4.13	4.30	4.09	3.99
(WY)	1978	1978	1978	1978	1978	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1972 - 1997	
ANNUAL TOTAL	4992.9		3722.2			
ANNUAL MEAN	13.6		10.2		9.03	
HIGHEST ANNUAL MEAN					13.5	1996
LOWEST ANNUAL MEAN					6.06	1977
HIGHEST DAILY MEAN	403	May 17	42	Jan 1	403	May 17 1996
LOWEST DAILY MEAN	8.0	Jun 16	8.5	Nov 7		
ANNUAL SEVEN-DAY MINIMUM	8.5	Jun 11	8.6	Nov 3	3.7	Sep 23 1977
INSTANTANEOUS PEAK FLOW			74	Nov 18	510	May 18 1996
INSTANTANEOUS PEAK STAGE			3.20	Nov 18	6.65	May 18 1996
ANNUAL RUNOFF (AC-FT)	9900		7380		6540	
ANNUAL DIVERSION (AC-FT) a	143700		159300			
10 PERCENT EXCEEDS	13		12		10	
50 PERCENT EXCEEDS	10		9.6		8.7	
90 PERCENT EXCEEDS	8.9		9.0		7.9	

a Diversion, in acre-feet, to Loon Lake Powerplant, provide by Sacramento Municipal Utility District.

11429600 GERLE RESERVOIR NEAR MEEKS BAY, CA

LOCATION.--Lat 38°57'59", long 120°23'33", in SE 1/4 SW 1/4 sec.15, T.13 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank side of upstream face of dam on Gerle Creek, 0.2 mi downstream from Angel Creek, and 15.2 mi southwest of Meeks Bay.

DRAINAGE AREA.--28.7 mi^2.

PERIOD OF RECORD.--October 1993 to current year. Unpublished records for water years 1980-93 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to June 9, 1988, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete dam completed in 1970. Storage began in 1970. Usable capacity, 1,200 acre-ft, below elevation 5,230.9 ft, crest of spillway. Most of the water is diverted at this reservoir to Robbs Peak Powerplant (station 11429300). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,469 acre-ft, Jan. 1, 1997, elevation, 5,235.39 ft; minimum, 845 acre-ft, Dec. 15, 1994, elevation, 5,222.15 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,469 acre-ft, Jan. 1, elevation, 5,235.39 ft; minimum, 855 acre-ft, May 20, elevation, 5,222.40 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

5,200	203	5,220	761
5,205	304	5,225	964
5,210	431	5,230	1,193
5,215	583	5,235	1,448

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	973	1097	970	1469	1152	1193	932	955	1111	1047	1113	1153
2	967	1079	1103	1343	1088	1139	890	897	1104	1060	1130	1138
3	964	1060	1048	1319	1038	1034	878	902	1128	1052	1132	1134
4	960	1123	1129	1030	995	1063	882	979	1234	1156	1057	1085
5	957	1119	1018	998	971	1118	897	914	1196	1128	1123	1059
6	953	1111	909	994	984	1123	895	923	1122	1131	1114	1093
7	949	987	923	982	996	1168	902	974	1113	1131	1162	1101
8	952	965	946	987	946	1169	964	951	1116	1114	1074	982
9	957	964	970	983	948	1192	894	907	1022	1068	1060	1003
10	961	921	1004	945	980	1159	881	907	1059	1103	1045	986
11	966	944	1215	1000	1062	1144	895	961	1076	1025	1056	969
12	970	976	1226	1016	1088	1079	926	1046	1079	1046	1054	1073
13	975	940	1096	1000	1155	1184	975	998	987	1108	1114	1054
14	979	947	961	1003	1053	1079	901	969	1031	1118	1112	1036
15	983	941	975	1014	1137	1022	893	975	983	1123	1040	1019
16	918	942	940	1052	1123	1006	940	1030	1142	1111	1080	1000
17	915	943	957	977	1150	1148	1011	999	1082	1085	1018	981
18	925	904	979	954	1004	1101	1010	982	1095	1135	1080	999
19	928	1028	1027	983	1134	1024	991	909	1070	1016	1064	975
20	931	994	971	949	1136	991	961	855	1066	1058	1140	956
21	930	924	974	961	1076	1037	964	1000	958	1083	1160	945
22	920	973	960	1008	1010	1027	991	971	1059	1069	1090	943
23	1026	923	965	955	1163	1083	1074	1009	993	1068	1103	941
24	1041	914	930	979	1157	1031	1069	964	1087	1048	1131	939
25	1009	866	959	1147	1193	1054	922	981	1137	1122	1139	937
26	1010	1068	1001	1085	1161	1012	984	1085	1111	1071	1142	936
27	942	967	1024	1039	1140	982	968	1136	1107	1115	1060	934
28	968	871	994	1114	1194	935	1037	950	1121	1120	1120	931
29	955	943	1170	1045	---	958	926	1018	1133	1066	1134	929
30	919	882	1080	1041	---	938	932	1030	1140	1080	1116	927
31	1099	---	1069	1032	---	942	---	1062	---	1167	1145	---
MAX	1099	1123	1226	1469	1194	1193	1074	1136	1234	1167	1162	1153
MIN	915	866	909	945	946	935	878	855	958	1016	1018	927
a	5228.00	5223.05	5227.35	5226.54	5230.02	5224.49	5224.24	5227.19	5228.88	5229.45	5228.98	5224.12
b	+125	-217	+187	-37	+162	-252	-10	+130	+78	+27	-22	-218

CAL YR 1996 MAX 1349 MIN 854 b +128
WTR YR 1997 MAX 1469 MIN 855 b -47

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA

LOCATION.--Lat 38°57'17", long 120°24'02", in SW 1/4 SW 1/4 sec.22, T.13 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank 600 ft downstream from Gerle Creek, 1.2 mi downstream from South Fork Rubicon River Diversion Dam, and 18 mi east of Georgetown.

DRAINAGE AREA.--47.6 mi^2.

PERIOD OF RECORD.--February 1910 to June 1914 (published as Little South Fork Rubicon River below Gerle Creek near Quintette), August 1961 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,970 ft above sea level, from topographic map. Feb. 1, 1910, to June 21, 1914, nonrecording gage at site about 700 ft downstream at different datum.

REMARKS.--Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound Tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon Tunnel (stations 11427940 and 11428300). Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide Ditch. Water is diverted 1.2 mi upstream at South Fork Rubicon River Diversion Dam to Robbs Peak Powerplant (station 11429300). Diversion of up to 1,440 ft^3/s to Silver Creek basin began in October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft^3/s, Jan. 1, 1997, gage height, 12.65 ft, from rating curve extended above 2,500 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.8 ft^3/s, Sept. 21, 1962.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	8.5	8050	13	7.2	6.1	11	13	13	13	12
2	14	7.5	8.3	6730	13	7.6	5.9	11	13	13	12	12
3	12	7.4	8.7	889	12	6.6	5.9	11	13	12	13	12
4	12	7.8	9.7	240	11	5.9	5.9	11	14	12	12	12
5	11	13	401	14	11	5.7	5.7	11	29	13	12	12
6	12	7.5	13	12	10	6.0	5.6	11	13	13	12	12
7	12	7.4	10	11	9.5	6.3	5.6	11	13	14	12	12
8	11	6.5	9.5	11	9.8	6.5	5.8	11	13	13	12	12
9	11	6.3	12	10	8.8	6.8	6.3	11	13	13	12	11
10	11	6.3	35	9.5	8.8	6.9	6.1	11	12	13	12	12
11	11	6.1	192	8.9	8.7	8.1	6.1	12	13	12	12	11
12	11	6.2	1340	9.1	9.0	11	6.0	12	12	12	12	11
13	11	6.3	49	8.5	9.1	5.9	6.1	12	12	12	12	12
14	11	6.3	15	8.3	9.4	6.0	6.1	12	12	12	12	12
15	11	6.4	12	8.1	9.1	5.8	5.8	12	12	13	12	12
16	11	6.2	11	8.0	9.1	6.0	5.7	12	12	13	12	12
17	10	11	9.7	7.9	11	7.2	5.8	12	13	13	12	12
18	11	11	9.3	7.7	10	7.0	6.1	12	13	13	12	12
19	11	8.3	8.7	7.4	9.5	6.0	8.2	12	12	12	12	12
20	11	8.1	8.2	7.8	9.3	5.7	6.5	12	12	12	12	11
21	11	9.1	9.7	7.6	9.0	5.5	6.3	12	12	12	12	14
22	11	14	10	11	8.6	5.5	6.2	12	12	12	12	13
23	11	9.9	8.0	15	8.4	5.3	8.2	13	12	12	12	12
24	12	8.1	7.6	12	7.9	5.7	7.2	12	12	12	12	12
25	12	7.4	7.5	150	7.5	8.6	6.3	12	13	12	12	12
26	12	7.1	17	114	7.7	7.9	5.4	13	13	12	12	12
27	12	8.0	30	20	7.6	7.1	5.5	13	13	12	12	12
28	12	7.4	22	16	7.1	6.7	5.9	13	13	12	12	12
29	12	6.9	117	15	---	6.3	19	12	13	12	12	12
30	12	6.9	704	13	---	6.3	9.8	12	13	12	12	12
31	12	---	1780	12	---	6.5	---	12	---	12	12	---
TOTAL	356	241.4	4883.4	16443.8	264.9	205.6	201.1	366	395	385	374	359
MEAN	11.5	8.05	158	530	9.46	6.63	6.70	11.8	13.2	12.4	12.1	12.0
MAX	14	14	1780	8050	13	11	19	13	29	14	13	14
MIN	10	6.1	7.5	7.4	7.1	5.3	5.4	11	12	12	12	11
AC-FT	706	479	9690	32620	525	408	399	726	783	764	742	712
a	3930	18180	31600	28750	37950	40330	17730	13300	20360	10740	20440	7600

a Diversion, in acre-feet, to Robbs Peak Powerplant, provided by Sacramento Municipal Utility District.

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.7	20.1	38.6	62.3	37.5	19.9	13.4	27.7	21.1	13.1	9.12	9.25
MAX	52.2	268	396	530	524	130	141	276	249	92.5	12.5	22.3
(WY)	1963	1984	1965	1997	1986	1986	1982	1996	1983	1967	1983	1982
MIN	2.40	2.75	4.79	4.86	5.03	3.11	2.35	2.42	2.29	2.36	2.03	1.99
(WY)	1978	1978	1968	1968	1966	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	20025.3		24475.2			
ANNUAL MEAN	54.7		67.1		23.5	
HIGHEST ANNUAL MEAN					67.1	1997
LOWEST ANNUAL MEAN					3.59	1977
HIGHEST DAILY MEAN	3200	May 16	8050	Jan 1	8050	Jan 1 1997
LOWEST DAILY MEAN	6.1	Nov 11	5.3	Mar 23	1.3	Sep 29 1963
ANNUAL SEVEN-DAY MINIMUM	6.3	Nov 10	5.8	Apr 2	1.5	Sep 28 1963
INSTANTANEOUS PEAK FLOW			12600	Jan 1	12600	Jan 1 1997
INSTANTANEOUS PEAK STAGE			12.65	Jan 1	12.65	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	39720		48550		17060	
ANNUAL DIVERSION (AC-FT) a	263400		250900			
10 PERCENT EXCEEDS	17		13		13	
50 PERCENT EXCEEDS	11		12		8.2	
90 PERCENT EXCEEDS	8.0		6.2		5.2	

a Diversion, in acre-feet, to Robbs Peak Powerplant, provided by Sacramento Municipal Utility District.

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA

LOCATION.--Lat 38°53'41", long 120°34'02", in NE 1/4 NW 1/4 sec.18, T.12 N., R.13 E., El Dorado County, Hydrologic Unit 18020128, on right bank 2.1 mi upstream from Stumpy Meadows Dam and 12.5 mi east of Georgetown.

DRAINAGE AREA.--11.7 mi^2.

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1971, published as "above Stumpy Meadows Reservoir."

GAGE.--Water-stage recorder. Elevation of gage is 4,280 ft above sea level, from topographic map.

REMARKS.--Records good including estimated daily discharges. No regulation or diversion upstream from station. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,510 ft^3/s, Feb. 17, 1986, gage height, 7.15 ft, from rating curve extended above 540 ft^3/s on basis of slope-area measurement at gage height 6.31 ft; maximum gage height, 8.05 ft, Jan. 31, 1963; minimum daily, 0.14 ft^3/s, Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 5	0845	172	3.17	Jan. 2	0100	2,720	6.53
Dec. 12	0600	604	4.32	Jan. 26	0900	756	4.21

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	8.9	20	1790	121	37	26	20	16	12	6.2	4.6
2	6.2	8.0	16	1690	110	39	26	19	16	11	6.2	4.6
3	6.2	7.5	14	589	97	37	25	19	17	11	6.2	4.6
4	6.1	7.5	15	311	89	35	24	19	24	11	5.9	4.5
5	6.0	7.5	103	216	82	34	24	19	20	10	5.8	4.4
6	5.9	7.5	63	163	76	33	24	19	18	10	5.7	4.4
7	5.8	7.4	45	133	70	33	23	19	17	10	5.4	4.3
8	5.7	7.2	37	111	68	32	23	19	17	9.8	5.3	4.2
9	5.7	7.1	36	94	64	32	23	19	16	9.7	5.2	4.2
10	5.7	7.0	120	82	60	32	22	19	16	9.7	5.2	4.0
11	5.8	6.9	168	74	58	32	22	19	16	10	5.4	4.3
12	5.9	6.9	447	68	55	31	22	19	16	9.9	5.4	4.3
13	6.0	6.9	197	64	52	30	21	18	15	9.6	5.1	4.2
14	6.0	7.0	96	60	50	30	21	18	16	9.3	4.8	4.2
15	5.9	7.1	61	54	49	30	21	18	16	9.1	4.9	4.4
16	6.0	7.5	45	50	48	32	21	18	15	8.8	4.7	4.3
17	6.0	38	36	47	56	34	20	18	15	8.6	4.8	4.0
18	6.7	55	30	44	51	32	20	18	15	8.5	4.9	4.1
19	7.3	28	26	42	47	31	28	18	14	8.3	5.0	4.3
20	7.0	25	23	43	46	30	23	18	14	8.1	5.6	4.1
21	6.9	22	e23	44	44	30	22	18	14	7.9	5.4	4.0
22	6.6	62	e22	105	42	30	21	18	14	7.7	5.1	4.0
23	6.6	41	e22	166	41	30	24	19	13	7.7	4.9	3.9
24	7.7	24	22	118	39	30	21	19	13	8.1	5.3	3.8
25	9.6	19	21	472	39	29	21	18	12	7.6	5.2	3.8
26	8.2	16	62	636	39	28	20	18	12	7.3	5.1	4.1
27	7.6	14	178	347	39	28	20	17	12	7.2	5.1	4.1
28	7.4	14	153	230	38	28	19	16	12	6.9	5.1	3.8
29	9.2	13	200	179	---	27	20	16	12	6.8	4.9	3.8
30	10	12	454	149	---	26	20	16	12	6.5	4.8	3.9
31	10	---	656	129	---	27	---	16	---	6.5	4.8	---
TOTAL	211.8	500.9	3411	8300	1670	969	667	564	455	274.6	163.4	125.2
MEAN	6.83	16.7	110	268	59.6	31.3	22.2	18.2	15.2	8.86	5.27	4.17
MAX	10	62	656	1790	121	39	28	20	24	12	6.2	4.6
MIN	5.7	6.9	14	42	38	26	19	16	12	6.5	4.7	3.8
AC-FT	420	994	6770	16460	3310	1920	1320	1120	902	545	324	248

e Estimated.

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA --Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.51	13.0	27.0	48.2	47.8	53.1	47.3	35.7	15.1	8.23	5.27	4.74
MAX	24.8	74.1	159	268	373	195	139	118	50.4	17.7	16.2	16.3
(WY)	1963	1984	1965	1997	1986	1983	1982	1967	1967	1961	1961	1961
MIN	.87	2.79	3.35	4.55	4.64	4.82	3.38	4.06	1.93	.64	.18	.50
(WY)	1978	1977	1977	1991	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1961 - 1997	
ANNUAL TOTAL	16395.6		17311.9			
ANNUAL MEAN	44.8		47.4		25.9	
HIGHEST ANNUAL MEAN					64.8	1983
LOWEST ANNUAL MEAN					2.96	1977
HIGHEST DAILY MEAN	656	Dec 31	1790	Jan 1	2840	Feb 17 1986
LOWEST DAILY MEAN	5.7	Oct 8	3.8	Sep 24	.14	Aug 16 1977
ANNUAL SEVEN-DAY MINIMUM	5.8	Oct 6	3.9	Sep 23	.15	Aug 12 1977
INSTANTANEOUS PEAK FLOW			2720	Jan 2	3510	Feb 17 1986
INSTANTANEOUS PEAK STAGE			6.53	Jan 2	8.05	Jan 31 1963
ANNUAL RUNOFF (AC-FT)	32520		34340		18760	
10 PERCENT EXCEEDS	92		78		59	
50 PERCENT EXCEEDS	22		18		10	
90 PERCENT EXCEEDS	6.6		4.9		3.4	

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA

LOCATION.--Lat 38°55'25", long 120°38'27", in NE 1/4 NW 1/4 sec.4, T.12 N., R.12 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank 450 ft downstream from Mutton Canyon, 500 ft downstream from Georgetown Divide Diversion Dam, 2.5 mi downstream from Stumpy Meadows Dam, and 10 mi east of Georgetown.

DRAINAGE AREA.--21.1 mi^2.

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,760 ft above sea level, from topographic map.

REMARKS.--Records good except Jan. 2 to May 8, which are poor. Flow regulated by Stumpy Meadows Lake 2.5 mi upstream, usable capacity, 17,500 acre-ft, completed in November 1961. Georgetown Irrigation District Ditch, capacity, about 60 ft^3/s, diverts water out of Pilot Creek, 500 ft upstream from station. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,830 ft^3/s, Jan. 2, 1997, gage height, 10.95 ft, from rating curve extended above 970 ft^3/s on basis of slope-area measurement at gage height 10.06 ft; minimum daily, 0.20 ft^3/s, Sept. 24, Nov. 1-5, 1966.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	5.0	6.5	3980	269	85	35	7.3	5.4	5.9	4.4	4.1
2	4.6	4.9	4.7	5210	240	83	33	7.2	5.4	5.7	4.4	4.1
3	4.6	4.8	4.0	1400	205	82	32	7.0	5.8	5.6	4.3	4.1
4	4.6	4.8	4.6	721	182	80	30	6.8	7.2	5.6	4.3	4.0
5	4.5	4.8	50	489	160	78	29	6.7	6.4	5.6	4.3	4.1
6	4.5	4.8	23	348	145	75	27	6.6	6.0	5.5	4.2	4.4
7	4.4	4.8	12	263	134	72	26	6.6	5.8	5.5	4.2	4.3
8	4.4	4.8	7.5	217	137	70	24	6.8	5.6	5.5	4.2	4.3
9	4.4	4.8	14	186	118	67	23	6.7	5.6	5.4	4.2	4.3
10	4.4	4.8	46	161	109	64	21	6.6	5.5	5.2	4.2	4.3
11	4.4	4.8	54	134	101	62	20	6.5	5.4	4.9	4.3	4.3
12	4.4	4.8	544	120	93	60	19	6.3	5.4	4.8	4.4	4.3
13	4.4	4.8	435	110	100	58	17	6.3	5.5	4.8	4.4	4.3
14	4.4	4.8	233	93	89	56	16	6.2	5.6	4.8	4.3	4.3
15	4.4	4.8	150	91	84	54	15	6.2	5.8	4.7	4.3	4.3
16	4.4	4.8	110	84	79	52	14	6.2	5.5	4.7	4.3	4.2
17	4.4	15	85	73	100	56	13	6.1	5.6	4.7	4.3	4.2
18	4.6	21	68	69	91	56	13	6.1	5.5	4.7	4.3	4.2
19	4.7	7.3	58	69	82	53	21	6.0	5.5	4.7	4.3	4.1
20	4.6	6.1	51	98	78	53	23	5.9	5.5	4.7	4.6	4.1
21	4.6	6.2	90	102	75	52	21	5.9	5.4	4.6	4.5	4.0
22	4.6	14	74	271	72	51	19	5.7	5.4	4.6	4.3	4.3
23	4.6	8.3	50	408	83	49	17	6.3	5.3	4.6	4.3	4.7
24	5.3	5.4	37	274	77	47	16	6.1	5.3	4.6	4.3	4.6
25	5.3	4.7	32	747	60	46	15	5.8	5.5	4.6	4.3	4.5
26	4.9	4.3	83	1270	71	44	13	5.7	6.0	4.5	4.3	4.5
27	4.8	3.9	280	799	80	43	12	5.6	6.0	4.4	4.2	4.5
28	4.8	3.8	280	493	86	41	10	5.6	6.0	4.4	4.2	4.5
29	5.1	3.7	302	361	---	39	8.5	5.5	6.0	4.4	4.2	4.4
30	5.4	3.6	696	323	---	37	7.7	5.4	6.0	4.4	4.2	4.4
31	5.3	---	1110	294	---	36	---	5.4	---	4.4	4.1	---
TOTAL	144.1	184.4	4994.3	19258	3200	1801	590.2	193.1	170.9	152.5	133.1	128.7
MEAN	4.65	6.15	161	621	114	58.1	19.7	6.23	5.70	4.92	4.29	4.29
MAX	5.4	21	1110	5210	269	85	35	7.3	7.2	5.9	4.6	4.7
MIN	4.3	3.6	4.0	69	60	36	7.7	5.4	5.3	4.4	4.1	4.0
AC-FT	286	366	9910	38200	6350	3570	1170	383	339	302	264	255

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.78	5.80	31.9	65.2	73.3	74.6	67.1	37.1	8.73	4.12	3.23	2.77
MAX	7.19	28.6	340	621	585	370	289	171	54.4	15.6	13.4	8.54
(WY)	1963	1984	1965	1997	1986	1983	1982	1995	1967	1983	1983	1983
MIN	.46	.46	.54	.53	.89	1.21	.98	1.12	.66	.45	.38	.37
(WY)	1962	1962	1962	1962	1991	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1961 - 1997	
ANNUAL TOTAL	24139.1		30950.3			
ANNUAL MEAN	66.0		84.8		31.2	
HIGHEST ANNUAL MEAN					109	1983
LOWEST ANNUAL MEAN					.84	1977
HIGHEST DAILY MEAN	1110	Dec 31	5210	Jan 2	5210	Jan 2 1997
LOWEST DAILY MEAN	3.3	Jan 11	3.6	Nov 30	.20	Sep 24 1966
ANNUAL SEVEN-DAY MINIMUM	3.4	Jan 8	4.1	Aug 30	.23	Oct 30 1966
INSTANTANEOUS PEAK FLOW			7830	Jan 2	7830	Jan 2 1997
INSTANTANEOUS PEAK STAGE			10.95	Jan 2	10.95	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	47880		61390		22610	
10 PERCENT EXCEEDS	166		135		84	
50 PERCENT EXCEEDS	11		6.0		3.9	
90 PERCENT EXCEEDS	4.4		4.3		1.1	

11433060 SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank at diversion dam, 3.3 mi upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 mi east of Volcanoville.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 4,630 ft above sea level, from topographic map.

REMARKS.--Tunnel completed in September 1965; diversion began in February 1966. Flow is diverted from South Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork Powerplant on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 251 ft^3/s, Nov. 12, 1973; no flow for part of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	16	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	35	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	34	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	44	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	89	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	59	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	4.4	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	19	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	37	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	32	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	28	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	26	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	25	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	24	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	21	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	20	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	19	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	30	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	24	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	586.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	18.9	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	89	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	1160	.00	.00	.00	.00	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

MEAN	.002	3.54	5.81	9.71	11.9	20.5	26.5	23.2	7.44	.30	.002	.000
MAX	.034	37.2	38.6	42.1	77.3	77.7	67.8	80.6	47.5	4.54	.067	.001
(WY)	1980	1974	1984	1974	1996	1989	1980	1975	1967	1983	1983	1972
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1966	1966	1966	1966	1991	1974	1974	1974	1966	1966	1966	1966

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	7075.40		586.40			
ANNUAL MEAN	19.3		1.61		9.05	
HIGHEST ANNUAL MEAN					20.6	1978
LOWEST ANNUAL MEAN					.43	1977
HIGHEST DAILY MEAN	178	Feb 19	89	Dec 10	251	Nov 12 1973
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1965
ANNUAL RUNOFF (AC-FT)	14030		1160		6560	
10 PERCENT EXCEEDS	60		.00		31	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11433065 SOUTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 21 ft below diversion dam, 3.3 mi upstream from confluence of North and South Forks Long Canyon Creek, and 17.2 mi east of Volcanoville.

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,630 ft above sea level, from topographic map.

REMARKS.--Discharge is computed only during periods of operation of South Fork Long Canyon Creek Diversion Tunnel (station 11433060). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	7.6	---	---	---	---	---	---	---	---	---
7	---	---	6.1	---	---	---	---	---	---	---	---	---
8	---	---	6.1	---	---	---	---	---	---	---	---	---
9	---	---	6.3	---	---	---	---	---	---	---	---	---
10	---	---	9.4	---	---	---	---	---	---	---	---	---
11	---	---	13	---	---	---	---	---	---	---	---	---
12	---	---	26	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	7.2	---	---	---	---	---	---	---	---	---
17	---	---	7.0	---	---	---	---	---	---	---	---	---
18	---	---	7.0	---	---	---	---	---	---	---	---	---
19	---	---	7.0	---	---	---	---	---	---	---	---	---
20	---	---	7.0	---	---	---	---	---	---	---	---	---
21	---	---	7.0	---	---	---	---	---	---	---	---	---
22	---	---	7.0	---	---	---	---	---	---	---	---	---
23	---	---	7.0	---	---	---	---	---	---	---	---	---
24	---	---	7.0	---	---	---	---	---	---	---	---	---
25	---	---	7.0	---	---	---	---	---	---	---	---	---
26	---	---	7.6	---	---	---	---	---	---	---	---	---
27	---	---	14	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

11433080 NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°02'57", long 120°28'56", in SW 1/4 NW 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on left bank at diversion dam, 3.2 mi upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi east of Volcanoville.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 4,700 ft above sea level, from topographic map.

REMARKS.--Tunnel completed in September 1965 and diversions began in February 1966. Flow is diverted from North Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork Powerplant (stations 11428700 and 11428600) on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 88 ft^3/s, Dec. 11, 1996; no flow for part of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	11	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	22	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	36	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	81	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	88	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	1.1	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	12	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	19	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	16	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	14	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	12	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	11	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	11	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	9.3	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	8.3	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	7.9	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	19	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	15	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	393.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	12.7	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	88	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	781	.00	.00	.00	.00	.00	.00	.00	.00	.00

11433080 NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.049	.85	2.00	3.21	5.50	9.92	12.3	9.75	2.09	.019	.003	.004
MAX	.74	13.2	12.7	15.2	35.6	35.5	33.0	34.6	21.5	.20	.093	.077
(WY)	1980	1982	1997	1995	1996	1993	1993	1975	1983	1973	1973	1973
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1966	1966	1966	1966	1974	1974	1974	1974	1966	1966	1966	1966

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	3524.80		393.60			
ANNUAL MEAN	9.63		1.08		3.80	
HIGHEST ANNUAL MEAN					9.85	1993
LOWEST ANNUAL MEAN					.007	1977
HIGHEST DAILY MEAN	88	Dec 11	88	Dec 11	88	Dec 11 1996
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1965
ANNUAL RUNOFF (AC-FT)	6990		781		2750	
10 PERCENT EXCEEDS	32		.00		14	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11433085 NORTH FORK LONG CANYON CREEK BELOW DIVERSION DAM, NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°02'57", long 120°28'56", in SW 1/4 NW 1/4 sec.24, T.14 N., R.13 E., Placer County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank 26 ft below diversion dam, 3.2 mi upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi east of Volcanoville.

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,700 ft above sea level, from topographic map.

REMARKS.--Discharge is computed only during periods of operation of North Fork Long Canyon Creek Diversion Tunnel (station 11433080). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	5.3	---	---	---	---	---	---	---	---	---
8	---	---	3.2	---	---	---	---	---	---	---	---	---
9	---	---	3.4	---	---	---	---	---	---	---	---	---
10	---	---	4.1	---	---	---	---	---	---	---	---	---
11	---	---	5.7	---	---	---	---	---	---	---	---	---
12	---	---	8.5	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	2.8	---	---	---	---	---	---	---	---	---
17	---	---	3.6	---	---	---	---	---	---	---	---	---
18	---	---	3.2	---	---	---	---	---	---	---	---	---
19	---	---	3.1	---	---	---	---	---	---	---	---	---
20	---	---	3.0	---	---	---	---	---	---	---	---	---
21	---	---	3.2	---	---	---	---	---	---	---	---	---
22	---	---	3.5	---	---	---	---	---	---	---	---	---
23	---	---	3.6	---	---	---	---	---	---	---	---	---
24	---	---	3.6	---	---	---	---	---	---	---	---	---
25	---	---	3.6	---	---	---	---	---	---	---	---	---
26	---	---	4.1	---	---	---	---	---	---	---	---	---
27	---	---	8.0	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°00'22", long 120°45'35", in NW 1/4 NW 1/4 sec.4, T.13 N., R.11 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 1.6 mi downstream from Oxbow Powerplant and 3.3 mi east of Foresthill.

DRAINAGE AREA.--524 mi^2.

PERIOD OF RECORD.--October 1958 to current year.
CHEMICAL DATA: Water year 1979.
BIOLOGICAL DATA: Water year 1979.

GAGE.--Water-stage recorder. Elevation of gage is 1,070 ft above sea level, from topographic map. Prior to Oct. 22, 1965, at site 3.2 mi downstream at different datum. Oct. 22, 1965, to Aug. 28, 1985, at site 400 ft downstream at different datum.

REMARKS.--Flow regulated by French Meadows Reservoir, Hell Hole Reservoir, Loon Lake (stations 11427400, 11428700, and 11429350), Stumpy Meadows Lake, usable capacity, 17,500 acre-ft, and several smaller reservoirs. Robbs Peak Powerplant (station 11429300) and Georgetown Divide Ditch, capacity about 60 ft^3/s, divert water out of basin upstream from station. See schematic diagrams of Middle Fork American and Rubicon River basins and lower Sacramento River basin.

COOPERATION.--Records provided by Placer County Water Agency, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310,000 ft^3/s, Dec. 23, 1964, gage height, 69.0 ft from floodmarks, site and datum then in use, caused by overtopping of the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 ft^3/s on basis of slope-area measurement at gage height 38.0 ft and slope-conveyance study at gage height 69.0 ft, at site and datum then in use; next highest peak, 123,000 ft^3/s, Jan. 2, 1997, gage height, 29.56 ft, from rating curve extended above 37,000 ft^3/s; minimum, 35 ft^3/s, Oct. 10-20, 1961.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	699	698	871	56400	3850	1700	1240	891	759	688	944	1050
2	132	772	927	64500	3670	1690	1240	868	727	712	960	1060
3	135	668	789	20600	3140	1650	1230	828	733	665	1050	1060
4	135	638	800	10300	3010	1610	1230	857	870	758	1020	1060
5	127	586	6180	7080	2890	1590	1230	856	829	765	934	993
6	126	665	3380	5150	2690	1540	1220	815	967	727	980	1060
7	124	629	2340	3810	2520	1610	1220	977	904	758	1000	1060
8	125	556	1690	3370	2430	1610	1220	989	760	972	977	1050
9	123	526	1740	3070	2440	1580	1220	874	828	964	986	1060
10	123	463	4710	2850	2370	1580	1230	978	861	884	1010	1050
11	122	649	5890	2720	2250	1580	1210	1170	680	1010	1010	1050
12	123	559	20000	2670	2190	1380	712	1150	733	925	1010	1050
13	123	628	7510	2510	2090	1270	1030	1170	776	985	997	1050
14	122	531	4540	2300	2050	1480	981	1170	709	919	1020	665
15	123	525	3210	2150	2060	1480	937	1190	822	972	960	644
16	119	477	2630	2080	2050	1500	937	1200	642	947	1010	448
17	112	984	2200	1940	2120	1580	999	1190	764	770	1000	590
18	638	2390	1960	1860	2130	1550	947	1190	814	951	1000	541
19	617	1250	1800	1800	2020	1550	1140	1190	789	426	1020	574
20	658	972	1710	2130	1960	1540	1130	1160	586	742	1070	500
21	580	744	2330	2400	1900	1550	1060	1160	697	953	1070	454
22	878	1420	2490	5060	1840	1550	974	1150	704	815	1070	263
23	800	1890	2290	6750	1870	1570	1150	1160	718	871	1070	127
24	745	999	1920	4070	1790	1590	1080	1150	690	965	1060	117
25	834	947	1780	9530	2000	1580	1070	1010	627	950	1070	114
26	785	909	2880	15000	1760	1400	932	988	630	943	1070	109
27	772	707	7640	9720	1660	1580	955	888	710	891	1060	105
28	678	691	6700	6330	1710	1470	937	872	272	923	1060	103
29	739	674	8540	5380	---	1310	892	955	685	953	1060	100
30	643	700	16400	4490	---	1300	892	903	703	840	1060	98
31	686	---	25600	4100	---	1270	---	778	---	918	1060	---
TOTAL	12746	24847	153447	272120	64460	47240	32245	31727	21989	26562	31668	19205
MEAN	411	828	4950	8778	2302	1524	1075	1023	733	857	1022	640
MAX	878	2390	25600	64500	3850	1700	1240	1200	967	1010	1070	1060
MIN	112	463	789	1800	1660	1270	712	778	272	426	934	98
AC-FT	25280	49280	304400	539800	127900	93700	63960	62930	43620	52690	62810	38090

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	450	654	1190	1687	1832	1837	1759	1552	1000	647	607	515
MAX	1634	2952	7172	8778	8815	5076	5572	4642	3300	1836	1142	1084
(WY)	1963	1984	1965	1997	1986	1983	1982	1963	1983	1983	1983	1983
MIN	54.3	47.1	64.8	85.2	111	240	110	120	124	99.2	47.2	42.8
(WY)	1961	1960	1960	1991	1991	1977	1977	1977	1977	1966	1959	1962

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1959 - 1997	
ANNUAL TOTAL	738964		738256			
ANNUAL MEAN	2019		2023		1141	
HIGHEST ANNUAL MEAN					2723	1982
LOWEST ANNUAL MEAN					179	1977
HIGHEST DAILY MEAN	25600	Dec 31	64500	Jan 2	65000	Dec 23 1964
LOWEST DAILY MEAN	112	Oct 17	98	Sep 30	35	Oct 19 1961
ANNUAL SEVEN-DAY MINIMUM	121	Oct 11	107	Sep 24	38	Oct 14 1961
INSTANTANEOUS PEAK FLOW			123000	Jan 2	310000	Dec 23 1964
INSTANTANEOUS PEAK STAGE			29.56	Jan 2	69.00	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	1466000		1464000		826400	
10 PERCENT EXCEEDS	3390		2940		2390	
50 PERCENT EXCEEDS	1210		1010		740	
90 PERCENT EXCEEDS	567		550		94	

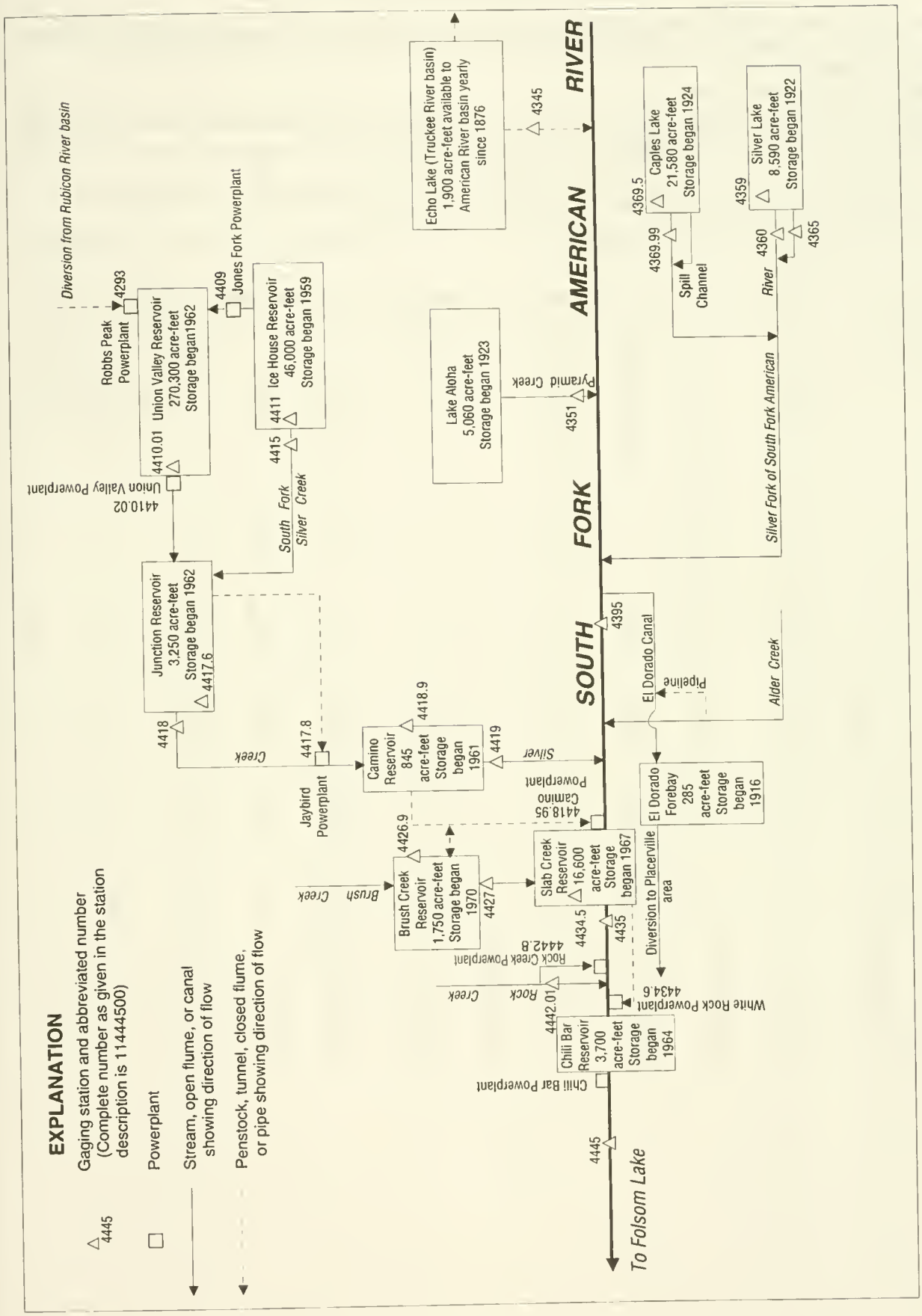

Figure 34. Diversions and storage in South Fork American River basin.

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA

LOCATION.--Lat 38°48'57", long 120°06'58", in NW 1/4 SW 1/4 sec.9, T.11 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 0.5 mi northeast of Twin Bridges, 2.2 mi west of Phillips, and 3.6 mi downstream from Lake Aloha.

DRAINAGE AREA.--8.76 mi^2.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,320 ft above sea level, from topographic map. Prior to October 1987, at datum 1.00 ft higher.

REMARKS.--Flow regulated by Lake Aloha, capacity, 5,060 acre-ft. Lake of the Woods, Ropi Lake, and Toem Lake (unknown capacities) also regulate at times. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by the Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,920 ft^3/s, Jan. 2, 1997, gage height, 7.22 ft, from rating curve extended above 300 ft^3/s; minimum daily, 0.03 ft^3/s, Oct. 26-28, 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	10	37	825	47	30	62	66	206	39	22	14
2	4.3	10	33	1570	47	29	57	66	174	36	22	14
3	4.3	8.9	30	212	43	29	54	68	151	36	21	14
4	4.3	9.2	31	105	42	29	52	71	386	40	21	14
5	4.2	7.9	89	80	41	28	51	79	252	43	21	14
6	4.1	6.7	53	69	39	28	49	86	163	43	21	14
7	4.0	6.1	40	66	39	28	48	92	152	43	21	14
8	4.0	6.3	46	60	39	28	47	98	138	47	18	14
9	3.9	11	50	57	38	29	46	100	124	51	20	14
10	3.8	17	50	55	38	32	45	108	108	51	20	14
11	3.8	17	58	52	37	36	45	111	107	48	20	14
12	3.7	17	140	51	37	35	44	117	114	45	26	13
13	3.7	15	87	51	37	34	44	130	103	40	63	13
14	3.6	15	52	51	37	34	45	136	155	39	63	13
15	3.6	14	42	50	37	37	50	134	154	40	63	13
16	3.4	14	38	48	37	41	55	134	144	39	62	13
17	3.4	280	36	46	38	40	65	131	146	35	61	13
18	4.1	455	34	45	37	40	72	125	148	32	61	13
19	4.5	127	33	45	37	45	120	115	139	29	60	13
20	4.1	122	32	44	37	52	138	108	131	28	60	13
21	3.8	95	39	45	36	51	143	106	114	28	60	13
22	3.6	131	51	44	35	51	133	103	98	28	59	13
23	3.5	65	49	56	34	53	112	114	84	27	58	13
24	23	46	39	51	33	62	98	104	73	26	58	13
25	34	40	34	54	32	66	83	89	66	25	57	13
26	15	37	36	56	32	69	75	88	65	24	56	13
27	9.7	34	42	51	31	81	72	96	62	24	56	13
28	7.9	34	38	47	31	80	71	121	56	24	49	13
29	7.6	32	49	45	---	74	66	136	51	23	18	13
30	8.2	31	105	44	---	71	65	188	47	23	15	13
31	10	---	157	45	---	68	---	205	---	23	14	---
TOTAL	205.3	1714.1	1650	4120	1048	1410	2107	3425	3911	1079	1246	401
MEAN	6.62	57.1	53.2	133	37.4	45.5	70.2	110	130	34.8	40.2	13.4
MAX	34	455	157	1570	47	81	143	205	386	51	63	14
MIN	3.4	6.1	30	44	31	28	44	66	47	23	14	13
AC-FT	407	3400	3270	8170	2080	2800	4180	6790	7760	2140	2470	795

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.0	18.6	16.6	20.5	18.1	24.7	40.8	96.4	97.1	69.1	44.9	16.4
MAX	35.8	57.1	53.2	133	55.6	63.2	70.2	160	213	198	90.2	77.4
(WY)	1996	1997	1997	1997	1982	1982	1997	1974	1983	1995	1974	1983
MIN	.18	.74	1.93	2.25	3.54	7.13	14.7	29.5	18.4	32.3	2.52	.28
(WY)	1991	1991	1991	1991	1991	1977	1975	1977	1987	1991	1981	1981

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1971 - 1997	
ANNUAL TOTAL	21874.1		22316.4			
ANNUAL MEAN	59.8		61.1		39.7	
HIGHEST ANNUAL MEAN					65.1	1982
LOWEST ANNUAL MEAN					15.3	1977
HIGHEST DAILY MEAN	605	May 16	1570	Jan 2	1570	Jan 2 1997
LOWEST DAILY MEAN	3.4	Oct 16	3.4	Oct 16	.03	Oct 26 1992
ANNUAL SEVEN-DAY MINIMUM	3.6	Oct 11	3.6	Oct 11	.04	Oct 22 1992
INSTANTANEOUS PEAK FLOW			2920	Jan 2	2920	Jan 2 1997
INSTANTANEOUS PEAK STAGE			7.22	Jan 2	7.22	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	43390		44260		28780	
10 PERCENT EXCEEDS	123		124		98	
50 PERCENT EXCEEDS	40		43		20	
90 PERCENT EXCEEDS	5.3		11		3.0	

11435900 SILVER LAKE NEAR KIRKWOOD, CA

LOCATION.--Lat 38°40'07", long 120°07'14", in NW 1/4 SE 1/4 sec.32, T.10 N., R.17 E., Amador County, Hydrologic Unit 18020129, Eldorado National Forest, on outlet structure, 3.5 mi southwest of Kirkwood.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 7,184.3 ft above sea level (levels by Pacific Gas & Electric Co.). October 1985 to Mar. 5, 1991, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earthfill and rock masonry dam initially constructed in 1876 and enlarged in 1929. Capacity, 8,590 acre-ft between gage heights 0.0 ft, invert of outlet, and 22.7 ft, top of radial gates and flashboards. Released water is used for power development on South Fork American River. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,791 acre-ft, June 3, 1996, gage height, 23.10 ft; minimum, 0 acre-ft, Feb. 13, 15, 20, 22, 27, 1991, gage height, 0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,716 acre-ft, June 17, gage height, 22.95 ft; minimum, 1,838 acre-ft, Nov. 16, gage height, 6.37 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by Pacific Gas & Electric Co., recomputed Oct. 1, 1989)

0.0	0	12.0	3,840
2.0	540	15.0	5,010
4.0	1,120	18.0	6,350
6.0	1,720	21.0	7,740
9.0	2,730	24.0	9,241

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4801	2737	3289	7035	2992	2179	3995	4942	8485	8089	7076	6036
2	4801	2677	3252	7205	2931	2179	3927	4930	8370	8069	7039	6009
3	4805	2610	3215	5502	2888	2165	3878	4998	8270	8039	7007	5986
4	4785	2544	3222	4773	2819	2155	3844	5130	8570	8019	6975	5958
5	4753	2481	3419	4418	2744	2124	3825	5379	8450	7994	6943	5931
6	4713	2411	3501	4209	2677	2114	3806	5768	8275	7969	6911	5895
7	4654	2353	3532	4083	2614	2104	3790	6128	8164	7944	6874	5867
8	4583	2298	3573	4014	2558	2097	3798	6556	8044	7919	6847	5836
9	4504	2236	3649	3953	2495	2097	3790	6943	8004	7884	6805	5817
10	4430	2172	3756	3900	2432	2097	3760	7256	8029	7854	6778	5790
11	4356	2114	3832	3863	2404	2138	3729	7899	8104	7819	6759	5772
12	4278	2053	4163	3836	2383	2162	3710	8370	8175	7800	6731	5741
13	4205	1995	4197	3779	2363	e2179	3702	8615	8240	7760	6708	5700
14	4132	1940	4151	3725	2349	e2189	3771	8520	8430	7731	6671	5668
15	4048	1883	4090	3680	2339	e2192	3848	8320	8540	7697	6634	5632
16	3957	1838	4056	3615	2329	e2196	3988	8154	8650	7669	6593	5606
17	3874	2008	4022	3558	2329	e2199	4136	8019	8716	7612	6552	5543
18	3798	2533	4003	3498	2322	e2206	4251	7874	8635	7579	6506	5467
19	3706	2695	3984	3415	2311	e2213	4520	7924	8495	7542	6464	5401
20	3649	2776	3991	3426	2301	e2335	4500	8059	8380	7509	6437	5323
21	3539	3003	4075	3382	2291	e2418	4586	8139	8290	7471	6409	5276
22	3456	3285	4067	3441	2267	e2621	4446	8159	8195	7434	6382	5198
23	3374	3348	4029	3371	2270	e2827	4391	8235	8149	7396	6341	5134
24	3311	3389	3995	3326	2250	e3036	4391	8200	8164	7368	6308	5074
25	3248	3434	3976	3348	2226	e3248	4461	8139	8164	7326	6271	5014
26	3149	3426	4022	3359	2213	e3509	4662	8099	8164	7289	6239	4954
27	3083	3393	4007	3289	2213	e3600	4913	8185	8164	7256	6207	4889
28	3010	3363	3984	3230	2202	e3691	4990	8360	8139	7224	6174	4841
29	2956	3333	4064	3167	---	e3783	4958	8545	8124	7187	6137	4773
30	2888	3300	4298	3112	---	e3874	4946	8635	8114	7154	6101	4717
31	2812	---	4666	3046	---	e3965	---	8565	---	7117	6073	---
MAX	4805	3434	4666	7205	2992	3965	4990	8635	8716	8089	7076	6036
MIN	2812	1838	3215	3046	2202	2097	3702	4930	8004	7117	6073	4717
a	9.23	10.57	14.14	9.88	7.48		14.84	22.65	21.75	19.67	17.40	14.27
b	-2029	+488	+1366	-1620	-844	+1763	+981	+3619	-451	-997	-1044	-1356

CAL YR 1996 MAX 8791 MIN 1838 b +1825
WTR YR 1997 MAX 8716 MIN 1838 b -124

e Estimated.

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION.--Lat 38°40'18", long 120°07'19", in NE 1/4 SW 1/4 sec.32, T.10 N., R.17 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 1,000 ft downstream from Silver Lake Dam and 3.5 mi southwest of Kirkwood.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WDR CA-75-4: 1927(M), 1929(M), 1932(M), 1937-38(M), 1940-45(M), 1950-53(M), 1955-58(M), 1963(M), 1965(M), 1967(M), 1969-70(M), 1973(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 8, 1986. Datum of gage is 7,198.0 ft above sea level (levels by Pacific Gas & Electric Co).

REMARKS.--Low and medium flow regulated by Silver Lake (station 11435900) 1,000 ft upstream. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation and is measured at staff gage (station 11436500) 0.25 mi east of station. For leakage from Silver Lake, refer to monthly figures below. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft^3/s, Jan. 2, 1997, gage height, 7.79 ft, from rating curve extended above 430 ft^3/s; no flow many days in February and March 1948, Jan. 13, 14, 1954, Nov. 3, 1959, to Feb. 5, 1960.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	32	15	680	55	22	92	132	164	4.9	4.1	4.0
2	4.9	31	4.6	1940	55	22	83	134	153	4.0	4.1	3.9
3	4.8	31	4.3	979	53	22	76	134	146	3.4	4.2	3.7
4	5.0	31	4.4	406	52	22	72	137	172	3.2	4.5	4.9
5	9.4	31	4.3	208	52	22	70	101	192	3.2	4.5	6.1
6	16	30	3.9	130	51	22	69	50	170	3.1	4.5	6.2
7	23	30	3.9	96	50	22	68	34	152	3.2	4.0	6.2
8	34	30	3.9	80	49	22	68	36	141	3.1	4.0	6.2
9	34	29	3.9	70	49	22	68	37	106	3.0	4.3	6.3
10	34	29	3.9	64	48	22	68	38	65	2.9	4.5	6.0
11	34	28	3.9	59	33	22	68	56	35	3.0	4.5	6.1
12	34	28	29	56	23	22	68	85	21	2.9	4.4	6.2
13	33	27	81	56	22	22	68	135	12	2.9	4.4	6.1
14	33	27	76	56	22	22	68	264	12	2.9	4.4	6.1
15	39	26	61	55	22	23	69	312	12	2.6	4.4	5.8
16	42	27	44	55	22	23	78	291	12	4.7	4.4	5.6
17	42	17	34	55	22	24	100	272	31	6.0	4.4	18
18	42	7.4	28	54	22	24	128	255	92	5.9	4.4	27
19	41	4.4	24	54	22	25	195	179	116	5.2	4.3	27
20	40	3.8	21	54	22	25	226	94	97	5.1	4.3	26
21	40	3.5	35	54	22	26	241	103	82	4.6	4.2	26
22	39	3.5	46	54	22	26	236	108	78	4.3	4.1	26
23	38	3.4	37	54	23	27	203	111	35	4.3	4.0	26
24	38	3.4	28	56	24	28	143	115	8.3	4.1	3.9	26
25	37	3.4	23	59	24	28	108	110	5.0	4.1	3.9	26
26	37	13	23	59	24	49	116	107	4.9	4.2	4.0	26
27	34	24	29	59	23	68	126	71	4.9	4.3	4.1	25
28	33	24	25	58	22	78	133	65	4.8	4.3	4.1	25
29	33	24	28	58	---	92	134	79	4.9	4.3	4.1	25
30	33	24	73	57	---	99	132	128	4.9	4.2	4.0	25
31	32	---	160	56	---	101	---	173	---	4.0	3.9	---
TOTAL	944.0	625.8	961.0	5831	930	1074	3374	3946	2133.7	121.9	130.9	443.4
MEAN	30.5	20.9	31.0	188	33.2	34.6	112	127	71.1	3.93	4.22	14.8
MAX	42	32	160	1940	55	101	241	312	192	6.0	4.5	27
MIN	4.8	3.4	3.9	54	22	22	68	34	4.8	2.6	3.9	3.7
AC-FT	1870	1240	1910	11570	1840	2130	6690	7830	4230	242	260	879
a	0	0	0	24	0	0	0	521	720	582	438	187

a Leakage, in acre-feet, from Silver Lake, provided by Pacific Gas & Electric Co.

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.9	18.6	16.1	15.2	13.8	15.6	43.2	126	86.7	18.9	8.52	37.7
MAX	54.3	110	116	188	93.3	98.2	133	306	353	186	50.5	74.6
(WY)	1953	1951	1951	1997	1963	1986	1943	1969	1983	1983	1987	1983
MIN	.11	.15	.000	.000	.093	.013	.20	1.37	1.43	.91	.44	.16
(WY)	1930	1929	1960	1960	1948	1948	1924	1977	1977	1959	1925	1923

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1923 - 1997	
ANNUAL TOTAL	18793.4		20515.7			
ANNUAL MEAN	51.3		56.2		35.5	
HIGHEST ANNUAL MEAN					85.4	1983
LOWEST ANNUAL MEAN					8.76	1976
HIGHEST DAILY MEAN	544	May 16	1940	Jan 2	1940	Jan 2 1997
LOWEST DAILY MEAN	2.6	Jul 17	2.6	Jul 15	.00	Feb 24 1948
ANNUAL SEVEN-DAY MINIMUM	2.7	Jul 28	2.9	Jul 9	.00	Feb 28 1948
INSTANTANEOUS PEAK FLOW			2170	Jan 2	2170	Jan 2 1997
INSTANTANEOUS PEAK STAGE			7.79	Jan 2	7.79	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	37280		40690		25730	
TOTAL LEAKAGE (AC-FT) a	2410		2470			
10 PERCENT EXCEEDS	127		129		95	
50 PERCENT EXCEEDS	30		27		11	
90 PERCENT EXCEEDS	3.2		4.0		.70	

a Leakage, in acre-feet, from Silver Lake, provided by Pacific Gas & Electric Co.

11436950 CAPLES LAKE NEAR KIRKWOOD, CA

LOCATION.--Lat 38°42'27", long 120°02'55", in SW 1/4 SW 1/4 sec.18, T.10 N., R.18 E., Alpine County, Hydrologic Unit 18020129, Eldorado National Forest, on Caples Lake Dam near the center of the earthfill portion and 1.3 mi east of Kirkwood.

DRAINAGE AREA.--13.5 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Unpublished records for water years 1981-85 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder since Oct. 1, 1991. Datum of gage is 7,894.0 ft above sea level (levels by Pacific Gas & Electric Co.). Prior to Oct. 1, 1991, nonrecording gage read periodically except for the periods Oct. 16, 1986, to Sept. 30, 1987, Dec. 18, 1990, to May 26, 1991, and July 30 to Sept. 16, 1991, when there was a water-stage recorder at same site and datum.

REMARKS.--Lake is formed by one earthfill and one concrete dam at spillway; dam was completed and storage began in 1924. Capacity, 21,581 acre-ft, between gage heights 6.0 and 62.0 ft, top of 3 ft of flashboards; capacity, 19,751 acre-ft at spillway level. Released water is measured at Caples Creek Release (station 11436999). When gage height is above spillway crest of 59.0 ft, there is leakage or spill which is not measured. Released water is used for power development on South Fork American River. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 21,696 acre-ft, July 9, 10, 1997, gage height, 62.19 ft; minimum, 2,427 acre-ft, Mar. 30, 31, 1987, gage height, 20.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,696 acre-ft, July 9, 10, gage height, 62.19 ft; minimum, 9,282 acre-ft, Mar. 20, gage height 39.20 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Pacific Gas & Electric Co., dated Mar. 24, 1934)

15.0	1,061	45.0	12,037
20.0	2,238	50.0	14,609
25.0	3,703	55.0	17,390
30.0	5,442	60.0	20,356
35.0	7,432	63.0	22,201
40.0	9,648		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17534	14236	13539	16533	14721	10327	10266	14110	21464	21611	21420	20380
2	17540	14131	13503	19655	14454	10243	10304	14279	21390	21581	21420	20301
3	17511	14036	13472	20040	14052	10201	10309	14449	21322	21581	21420	20259
4	17511	13962	13451	19908	13721	10126	10332	14716	21494	21605	21377	20186
5	17488	13873	13565	19811	13508	10032	10337	15018	21297	21623	21365	20125
6	17453	13784	13602	19769	13307	9972	10360	15339	21187	21648	21309	20028
7	17384	13721	13591	19703	13021	9888	10384	15685	21088	21672	21303	19980
8	17280	13612	13591	19673	12762	9809	10403	16051	21009	21672	21291	19901
9	17143	13550	13622	19498	12395	9758	10445	16460	21070	21696	21254	19793
10	17005	13462	13721	19391	12072	9708	10445	16931	21058	21696	21260	19727
11	16851	13395	13758	19307	11854	9630	10469	17407	20972	21654	21236	19673
12	16715	13297	13857	19158	11618	9570	10469	17976	20923	21617	21211	19588
13	16573	13220	13894	19050	11496	9514	10497	18511	20948	21617	21211	19486
14	16432	13138	13894	18937	11423	9459	10516	19003	21064	21593	21174	19421
15	16274	13066	13894	18789	11331	9427	10569	19468	21119	21593	21174	19349
16	16123	12990	13899	18528	11234	9382	10678	19859	21137	21611	21131	19271
17	16001	13133	13878	18257	11200	9327	10811	20429	21236	21581	21070	19206
18	15851	13317	13878	17982	11143	9300	10979	20892	21371	21556	21070	19194
19	15718	13390	13878	17725	11071	9291	11282	21168	21396	21519	21039	19158
20	15558	13410	13883	17494	10984	9282	11574	21223	21353	21519	21009	19140
21	15432	13498	14046	17257	10907	9322	12052	21211	21346	21476	20972	19098
22	15268	13612	14104	17125	10840	9368	12310	21144	21297	21476	20929	19092
23	15126	13633	14104	16891	10773	9436	12500	21101	21254	21476	20905	19044
24	15029	13659	14104	16681	10678	9533	12661	21003	21309	21476	20856	19038
25	14904	13659	14104	16539	10611	9616	12812	20929	21433	21494	20849	19033
26	14759	13685	14194	16347	10526	9735	13036	20892	21525	21494	20807	18997
27	14630	13680	14194	16084	10497	9869	13348	20892	21617	21494	20739	19009
28	14497	13638	14189	15823	10422	9981	13597	21058	21660	21494	20660	19003
29	14433	13597	14284	15531	---	10075	13774	21279	21684	21464	20617	18991
30	14369	13555	14411	15290	---	10168	13941	21464	21636	21464	20538	18961
31	14295	---	14620	15002	---	10229	---	21476	---	21464	20453	---
MAX	17540	14236	14620	20040	14721	10327	13941	21476	21684	21696	21420	20380
MIN	14295	12990	13451	15002	10422	9282	10266	14110	20923	21464	20453	18961
a	49.41	48.00	50.02	50.73	41.66	41.25	48.74	61.83	62.09	61.81	60.16	57.68
b	-3274	-740	+1065	+382	-4580	-193	+3712	+7535	+160	-172	-1011	-1492

CAL YR 1996 MAX 21642 MIN 11883 b +2065
WTR YR 1997 MAX 21696 MIN 9282 b +1392

a Gage height, in feet, at end of month.
b Change in contents, in acre-feet.

11436999 CAPLES CREEK RELEASE BELOW CAPLES DAM, NEAR KIRKWOOD, CA

LOCATION.--Lat 38°42'31", long 120°03'02", in NW 1/4 SW 1/4 sec.18, T.10 N., R.18 E., Alpine County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 500 ft downstream from main dam and outlet gate of Caples Lake and 1.3 mi east of Kirkwood.

DRAINAGE AREA.--13.5 mi^2.

PERIOD OF RECORD.--October 1992 to current year. Records for September 1922 to September 1992 were published as station 11437000, Caples Lake Outlet. This record combined the spillway discharge. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1969, published as Twin Lakes Outlet near Kirkwood.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,730 ft above sea level, from topographic map.

REMARKS.--Flow regulated by Caples Lake (station 11436950) 500 ft upstream. Flow over Caples Lake Spillway bypasses this gage. No diversion upstream from station. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 254 ft^3/s, July 2, 1995, gage height, 3.09 ft; minimum daily, 5.5 ft^3/s, Sept. 10, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	39	27	18	151	50	25	27	132	9.7	14	34
2	7.8	39	27	17	150	50	25	27	132	9.7	14	34
3	7.9	39	27	14	149	50	25	27	132	9.7	14	34
4	8.0	39	19	57	149	50	25	27	132	9.7	14	34
5	8.0	39	13	81	148	50	25	27	132	9.7	14	34
6	13	39	13	80	147	49	25	21	131	9.7	14	34
7	39	40	13	80	147	49	25	15	132	9.7	14	34
8	62	40	13	88	146	49	25	15	132	9.7	14	34
9	62	40	13	98	145	49	25	15	132	9.7	14	34
10	66	40	13	98	144	49	25	15	132	9.7	14	34
11	70	40	13	98	143	49	25	15	132	9.7	14	34
12	70	40	13	98	143	49	25	15	113	9.7	14	34
13	69	40	13	98	74	49	25	15	99	9.7	14	33
14	69	40	13	98	50	49	25	15	100	9.7	14	33
15	69	40	13	98	50	49	25	16	100	9.7	14	33
16	69	39	12	124	50	49	25	16	100	23	14	33
17	69	33	12	161	50	49	25	16	86	32	14	20
18	69	15	12	161	50	49	26	16	76	32	14	7.8
19	69	6.7	12	160	50	49	26	33	112	32	14	7.6
20	68	6.6	12	160	50	34	26	72	125	32	14	7.7
21	70	6.7	12	159	50	24	27	87	116	22	14	7.8
22	71	6.8	12	159	50	24	26	87	116	14	14	7.7
23	71	6.6	12	158	50	24	27	87	73	14	14	7.8
24	70	6.6	12	157	50	24	26	87	23	14	14	7.8
25	70	6.6	12	156	50	24	26	87	9.7	14	14	7.6
26	70	6.6	12	156	50	25	27	87	9.7	14	26	7.5
27	69	17	12	155	50	25	27	87	9.7	14	34	7.5
28	51	27	12	154	50	25	27	87	9.7	14	34	7.4
29	38	27	13	153	---	25	27	87	9.7	14	34	7.4
30	39	27	13	152	---	25	27	111	9.7	14	34	7.6
31	39	---	14	152	---	25	---	132	---	14	34	---
TOTAL	1630.5	832.2	439	3598	2586	1240	770	1471	2748.2	458.5	546	659.2
MEAN	52.6	27.7	14.2	116	92.4	40.0	25.7	47.5	91.6	14.8	17.6	22.0
MAX	71	40	27	161	151	50	27	132	132	32	34	34
MIN	7.8	6.6	12	14	50	24	25	15	9.7	9.7	14	7.4
AC-FT	3230	1650	871	7140	5130	2460	1530	2920	5450	909	1080	1310

11436999 CAPLES CREEK RELEASE BELOW CAPLES DAM, NEAR KIRKWOOD, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.0	20.5	19.8	41.1	35.7	22.6	32.8	51.4	103	66.5	32.1	29.3
MAX	54.5	33.1	29.8	116	92.4	40.0	83.5	106	203	183	64.5	55.3
(WY)	1996	1996	1996	1997	1997	1997	1995	1996	1995	1995	1995	1995
MIN	8.42	9.01	12.9	14.0	9.54	9.87	9.37	8.63	9.34	11.6	17.6	17.0
(WY)	1993	1995	1993	1993	1996	1996	1994	1994	1994	1994	1997	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1993 - 1997	
ANNUAL TOTAL	14830.9		16978.6			
ANNUAL MEAN	40.5		46.5		40.4	
HIGHEST ANNUAL MEAN					63.1	1995
LOWEST ANNUAL MEAN					20.8	1994
HIGHEST DAILY MEAN	173	May 9	161	Jan 17	252	Jul 6 1995
LOWEST DAILY MEAN	5.5	Sep 10	6.6	Nov 20	5.5	Sep 10 1996
ANNUAL SEVEN-DAY MINIMUM	6.6	Nov 20	6.6	Nov 20	6.5	Oct 16 1992
INSTANTANEOUS PEAK FLOW			166	Jan 16	254	Jul 2 1995
INSTANTANEOUS PEAK STAGE			2.78	Jan 16	3.09	Jul 2 1995
ANNUAL RUNOFF (AC-FT)	29420		33680		29250	
10 PERCENT EXCEEDS	95		132		98	
50 PERCENT EXCEEDS	32		27		23	
90 PERCENT EXCEEDS	9.0		9.7		9.0	

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA

LOCATION.--Lat 38°45'49", long 120°19'39", in SW 1/4 SW 1/4 sec.29, T.11 N., R.15 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 0.8 mi downstream from Silver Fork American River, and 1.9 mi southwest of Kyburz.

DRAINAGE AREA.--193 mi^2.

PERIOD OF RECORD.--August to December 1907, October 1922 to current year. Prior to October 1956, records for river and El Dorado Canal published separately; combined flow only, October 1956 to September 1960.
CHEMICAL DATA: Water years 1979, 1980.
BIOLOGICAL DATA: Water years 1979, 1980.
SUSPENDED SEDIMENT: Water year 1980.
WATER TEMPERATURE: Water years 1966-79.

REVISED RECORDS.--WSP 1445: 1923(M), 1925(M), 1927(M), 1928 (river only), 1935-37(M). WSP 1515: 1928 (combined). WSP 1931: Drainage area.

GAGE.--Water-stage recorder on river; water-stage recorder for canal diversion (station 11439000). Elevation of gage is 3,840 ft above sea level, from topographic map. Prior to Oct. 1, 1962, at datum 1.00 ft higher.

REMARKS.--Low and medium flows regulated by Echo Lake, Silver Lake, Caples Lake (stations 10336608, 11435900, and 11436950), and Lake Aloha, total capacity, 37,100 acre-ft. Some water is diverted out of river 0.6 mi upstream at diversion dam to El Dorado Canal (station 11439000). Part of this water is used for irrigation and domestic use and the remainder is returned to river at El Dorado Powerplant. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 25,000 ft^3/s, Jan. 2, 1997, gage height, 14.26 ft (from floodmarks), from rating curve extended above 6,300 ft^3/s on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.13 ft^3/s, Nov. 26, 1977.
Combined flow: Maximum discharge, 25,000 ft^3/s, Jan. 2, 1997; minimum daily, 10 ft^3/s, Oct. 17, 19, 1929.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	56	64	10400	907	444	799	1170	1290	280	93	78
2	52	55	59	e18000	934	449	733	1110	1190	236	91	78
3	50	54	53	e4000	871	433	668	1150	1110	204	88	81
4	47	54	54	e2000	824	423	648	1300	1790	190	87	81
5	44	54	873	e1500	782	419	644	1320	1650	189	86	82
6	47	53	330	e1250	742	422	618	1240	1280	187	84	82
7	46	52	172	e1150	719	428	616	1230	1120	185	83	80
8	45	53	172	e1050	707	440	645	1270	1050	186	79	80
9	44	53	273	e1000	683	463	628	1340	944	192	79	79
10	44	53	407	e970	667	507	581	1410	863	190	79	79
11	44	53	563	e950	647	571	565	1420	739	187	79	79
12	44	53	2210	e930	619	563	583	1490	699	195	79	79
13	45	53	1190	921	596	522	613	1580	614	176	105	78
14	45	54	678	853	500	547	673	1630	802	166	116	78
15	45	55	441	858	506	614	793	1660	729	146	115	78
16	45	54	331	804	525	678	884	1590	679	143	113	77
17	45	450	271	820	546	629	1040	1550	690	150	111	83
18	45	1480	222	825	531	653	1130	1530	685	145	111	93
19	45	248	193	820	509	757	1700	1490	718	139	110	87
20	46	317	175	806	501	821	1580	1380	715	134	107	85
21	46	110	203	734	487	784	1870	1270	607	131	106	85
22	46	627	280	736	483	801	1590	1170	555	114	104	83
23	46	222	298	815	502	927	1670	1230	477	109	103	82
24	47	110	257	807	479	1010	1330	1200	344	112	103	86
25	75	61	240	1020	473	1000	1180	997	293	107	102	89
26	57	55	294	1640	476	1090	1310	948	280	104	101	91
27	44	54	602	1300	483	1160	1520	906	261	100	112	88
28	45	56	396	1060	460	1080	1430	922	245	102	117	85
29	48	54	763	1010	---	1020	1160	987	238	107	95	85
30	46	54	2100	947	---	1010	1130	1150	253	98	81	83
31	50	---	3140	922	---	958	---	1330	---	95	79	---
TOTAL	1468	4757	17304	60898	17159	21623	30331	39970	22910	4799	2998	2474
MEAN	47.4	159	558	1964	613	698	1011	1289	764	155	96.7	82.5
MAX	75	1480	3140	18000	934	1160	1870	1660	1790	280	117	93
MIN	44	52	53	734	460	419	565	906	238	95	79	77
AC-FT	2910	9440	34320	120800	34030	42890	60160	79280	45440	9520	5950	4910

e Estimated.

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	34.2	78.0	131	154	171	269	631	1194	824	172	23.8	22.1
MAX	223	1283	1587	1964	1333	1252	1497	2765	3551	1628	343	417
(WY)	1984	1951	1951	1997	1986	1986	1982	1969	1983	1995	1983	1983
MIN	.77	.49	.69	.57	.76	2.42	38.9	56.8	.76	.62	.58	.54
(WY)	1929	1929	1931	1929	1931	1933	1977	1977	1924	1924	1926	1924

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1923 - 1997	
ANNUAL TOTAL	213371		226691			
ANNUAL MEAN	583		621		309	
HIGHEST ANNUAL MEAN					907	1983
LOWEST ANNUAL MEAN					19.4	1977
HIGHEST DAILY MEAN	8140	May 16	18000	Jan 2	18000	Jan 2 1997
LOWEST DAILY MEAN	40	Sep 8	44	Oct 5	.13	Nov 26 1977
ANNUAL SEVEN-DAY MINIMUM	41	Sep 5	44	Oct 8	.36	Nov 5 1928
INSTANTANEOUS PEAK FLOW			25000	Jan 2	25000	Jan 2 1997
INSTANTANEOUS PEAK STAGE			14.26	Jan 2	14.26	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	423200		449600		223700	
10 PERCENT EXCEEDS	1630		1300		1010	
50 PERCENT EXCEEDS	250		433		47	
90 PERCENT EXCEEDS	45		53		2.7	

11439501 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA—Continued

SOUTH FORK AMERICAN RIVER AND EL DORADO CANAL NEAR KYBURZ, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	120	200	10400	907	444	799	1170	1290	280	93	78
2	56	119	182	18000	934	449	733	1110	1190	236	91	78
3	52	115	173	4000	871	433	668	1150	1110	204	88	81
4	49	114	167	2000	824	423	648	1300	1790	190	87	81
5	46	112	1010	1500	782	419	644	1320	1650	189	86	82
6	50	108	464	1250	742	422	618	1240	1280	187	84	82
7	61	107	306	1150	719	428	616	1230	1120	185	83	80
8	117	106	308	1050	707	440	645	1270	1050	186	79	80
9	126	107	399	1000	683	463	628	1340	944	192	79	79
10	125	113	529	970	667	507	581	1410	863	190	79	79
11	132	115	690	950	647	571	565	1420	739	187	79	79
12	138	113	2340	930	619	563	583	1490	699	195	79	79
13	141	111	1310	921	596	522	613	1580	614	176	105	78
14	139	111	801	853	500	547	673	1630	802	166	116	78
15	140	109	566	858	506	614	793	1660	729	146	115	78
16	145	108	463	804	525	678	884	1590	679	143	113	77
17	144	571	407	820	546	629	1040	1550	690	150	111	83
18	147	1640	358	825	531	653	1130	1530	685	145	111	93
19	151	411	329	820	509	757	1700	1490	718	139	110	87
20	145	481	311	806	501	821	1580	1380	715	134	107	85
21	142	271	310	734	487	784	1870	1270	607	131	106	85
22	143	778	352	736	483	801	1590	1170	555	114	104	83
23	143	368	346	815	502	927	1670	1230	477	109	103	82
24	153	256	305	807	479	1010	1330	1200	344	112	103	86
25	213	206	288	1020	473	1000	1180	997	293	107	102	89
26	163	178	342	1640	476	1090	1310	948	280	104	101	91
27	147	173	650	1300	483	1160	1520	906	261	100	112	88
28	142	192	444	1060	460	1080	1430	922	245	102	117	85
29	118	181	822	1010	---	1020	1160	987	238	107	95	85
30	121	168	2170	947	---	1010	1130	1150	253	98	81	83
31	123	---	3210	922	---	958	---	1330	---	95	79	---
TOTAL	3764	7662	20552	60898	17159	21623	30331	39970	22910	4799	2998	2474
MEAN	121	255	663	1964	613	698	1011	1289	764	155	96.7	82.5
MAX	213	1640	3210	18000	934	1160	1870	1660	1790	280	117	93
MIN	46	106	167	734	460	419	565	906	238	95	79	77
AC-FT	7470	15200	40760	120800	34030	42690	60160	79280	45440	9520	5950	4910
a	4550	5760	6430	101	0	0	0	0	0	0	0	0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1997, BY WATER YEAR (WY)

MEAN	110	163	224	243	270	377	739	1319	957	301	148	133
MAX	365	1301	1698	1964	1412	1344	1533	2905	3561	1637	357	424
(WY)	1983	1951	1951	1997	1986	1986	1982	1969	1983	1995	1983	1983
MIN	20.8	25.2	44.2	36.5	38.4	53.7	178	207	99.7	75.0	73.0	46.4
(WY)	1978	1930	1960	1929	1977	1977	1977	1977	1924	1994	1994	1987

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1923 - 1997	
ANNUAL TOTAL	238763		235140			
ANNUAL MEAN	652		644		416	
HIGHEST ANNUAL MEAN					980	1983
LOWEST ANNUAL MEAN					104	1977
HIGHEST DAILY MEAN	8180	May 16	18000	Jan 2	18000	Jan 2 1997
LOWEST DAILY MEAN	45	Sep 27	46	Oct 5	10	Oct 17 1929
ANNUAL SEVEN-DAY MINIMUM	48	Sep 25	52	Oct 1	13	Oct 6 1929
INSTANTANEOUS PEAK FLOW			25000	Jan 2	25000	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	473600		466400		301000	
ANNUAL DIVERSION (AC-FT) a	50590		16840			
10 PERCENT EXCEEDS	1670		1300		1130	
50 PERCENT EXCEEDS	356		460		167	
90 PERCENT EXCEEDS	118		85		75	

a Diversion, in acre-feet, to El Dorado Canal, provided by Pacific Gas & Electric Co.

11441001 UNION VALLEY RESERVOIR NEAR RIVERTON, CA

LOCATION.--Lat 38°51'33", long 120°26'13", in NW 1/4 NW 1/4 sec.29, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in valve control house near left bank at Union Valley Dam on Silver Creek, 0.7 mi upstream from Little Silver Creek, and 6.6 mi north of Riverton.

DRAINAGE AREA.--83.7 mi^2.

PERIOD OF RECORD.--October 1962 to current year.

CHEMICAL ANALYSES.--June to September 1996.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District).

REMARKS.--Reservoir is formed by earthfill dam completed in December 1962; storage began May 1962. Usable capacity, 269,514 acre-ft between elevations 4,645.0 ft, minimum operating level, and 4,870.0 ft, top of radial spillway gates. Dead storage, 7,921 acre-ft. Reservoir receives water from the South Fork Rubicon River via Robbs Peak Powerplant (station 11429300) and from South Fork Silver Creek, since April 1985, via Jones Fork Powerplant (station 11440900). Water is used for power development in the South Fork American River basin. Discharge to Union Valley Powerplant (station 11441002) is shown as a line item below this table. Records, including extremes, represent total contents. See schematic diagrams of Middle Fork American and Rubicon River basins and South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 279,100 acre-ft, July 9, 1974, elevation, 4,870.6 ft; minimum since reservoir first filled, 18,300 acre-ft, Jan. 13, 1977, elevation, 4,683.3 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 276,925 acre-ft, June 4, elevation, 4,869.83 ft; minimum, 182,683 acre-ft, Oct. 31, elevation, 4,833.52 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

4,680	17,675	4,780	89,926
4,700	25,160	4,800	118,894
4,720	35,266	4,820	154,489
4,740	48,883	4,840	197,460
4,760	66,841	4,870	277,435

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204998	184061	197413	249629	225366	212076	208906	244605	275429	271508	247274	227517
2	204011	185334	198847	260016	225624	212002	207954	e245923	276027	270593	246171	226919
3	203292	186568	201239	251442	225211	211213	207906	e246556	276266	269357	245071	226167
4	202454	187922	203867	245978	224360	210425	207857	247854	276925	268448	244003	225030
5	201548	189306	211336	242583	223358	210278	207760	249463	276206	267862	243347	223923
6	200526	190560	214010	239978	222256	209787	207614	250047	276266	267277	242556	222538
7	199390	191109	214982	238145	220930	209542	207419	251805	276027	266810	242148	221337
8	198588	190240	215706	236724	220066	209346	207468	253095	275788	266635	242039	220243
9	197859	189829	216809	235282	218723	209248	207541	255067	275668	265586	241007	218446
10	196523	189602	219533	233873	217840	209199	207516	256652	276027	265267	240546	216759
11	195730	188874	223794	232391	216909	209004	208028	258017	275310	264744	239384	215081
12	194474	188647	229918	231310	216382	208906	208466	260303	274981	264135	239303	213116
13	193571	188239	232127	230206	215931	208906	209199	262603	275608	263325	239061	211336
14	192878	187357	231494	228898	215331	209787	210131	263527	275997	262690	238334	209493
15	191912	186771	229918	227855	214558	209910	211114	263498	276505	262171	238414	207857
16	190651	186029	228167	226634	213910	209273	212175	264106	276146	261221	237904	205940
17	190377	188692	226374	225185	213811	209542	213935	265180	276446	260446	237152	203963
18	189738	193617	224669	223769	213389	209224	216332	265907	276356	259816	236537	201977
19	188556	195194	222922	223153	212497	208735	220574	266664	276296	259415	236430	200526
20	188058	196874	221950	222717	211903	208101	223050	267716	276386	257960	236483	199296
21	186839	196991	221465	221720	210966	208344	225883	267569	276236	257448	236243	198353
22	185760	199839	220523	221567	209910	208882	228011	269122	276206	256595	237340	196827
23	185491	201263	219280	220497	209102	209591	231652	270888	276027	255632	237206	195217
24	185827	202049	218420	219280	208808	209812	233926	272366	275429	254954	235975	193340
25	186096	201405	217639	222487	211533	210352	235042	272485	273939	253601	234989	192164
26	185872	201025	217815	225366	212794	210770	237099	272425	273256	252618	233555	190949
27	185648	200954	219229	226090	212348	210696	239061	272100	273345	251554	232787	189875
28	184976	199508	219153	226271	212027	210893	241007	272070	272722	e250688	231205	188579
29	183615	199248	220320	226400	---	210352	242801	272989	272722	249463	230233	186478
30	183016	197812	224103	225883	---	210401	244030	273434	272100	248269	229211	184350
31	182683	---	230311	225391	---	209444	---	274534	---	248353	228037	---
MAX	204998	202049	232127	260016	225624	212076	244030	274534	276925	271508	247274	227517
MIN	182683	184061	197413	219280	208808	208101	207419	244605	272100	248269	228037	184350
a	4833.52	4840.15	4853.23	4851.34	4846.05	4845.00	4858.35	4869.03	4868.21	4859.92	4852.36	4834.27
b	-23208	+15129	+32499	-4920	-13364	-2583	+34586	+30504	-2434	-23747	-20316	-43687
c	33990	18120	58730	93960	81130	78240	14360	12970	36030	37610	42390	60330

CAL YR 1996 MAX 274892 MIN 158481 b +72308 c 524800
WTR YR 1997 MAX 276925 MIN 182683 b -21541 c 567900

e Estimated.
a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Diversion, in acre-feet, to Union Valley Powerplant, provided by Sacramento Municipal Utility District.

11441100 ICE HOUSE RESERVOIR NEAR KYBURZ, CA

LOCATION.--Lat 38°49'51", long 120°21'35", in SE 1/4 NW 1/4 sec.1, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in powerplant intake structure near right bank, 0.5 mi north of Ice House Dam on South Fork Silver Creek, and 5.2 mi northwest of Kyburz.

DRAINAGE AREA.--27.2 mi^2.

PERIOD OF RECORD.--October 1959 to current year.
CHEMICAL ANALYSES: June to September 1996.

REVISED RECORDS.--WSP 1931: 1960.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to July 15, 1985, at site 0.5 mi downstream at Ice House Dam at same datum.

REMARKS.--Reservoir is formed by an earthfill dam; storage began Dec. 15, 1959. Usable capacity, 45,839 acre-ft between elevations 5,327.5 ft, centerline of fishwater outlet, and 5,450.0 ft, top of spillway gates. Dead storage, 160 acre-ft. Reservoir is used to store water for power development. Reservoir is also forebay for Jones Fork Powerplant (station 11440900), which diverts up to 350 ft^3/s to powerplant completed in April 1985, then to Union Valley Reservoir (station 11441001). Records, including extremes, represent total contents. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 46,400 acre-ft, June 27, 1971, elevation, 5,450.6 ft; minimum since reservoir first filled, 1,450 acre-ft, Dec. 8, 1983, elevation, 5,347.9 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,935 acre-ft, June 4, elevation, 5,449.91 ft; minimum, 19,193 acre-ft, Mar. 16, elevation, 5,403.39 ft.

Capacity table (elevation, in feet, and contents in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed in October 1991)

5,345	1,080	5,400	17,665
5,350	1,801	5,420	27,406
5,360	3,751	5,440	39,167
5,380	9,663	5,451	46,721

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29961	23669	28146	35893	32129	24513	21479	34032	45906	45755	42907	38998
2	29600	23654	27850	40095	31886	24089	21666	34421	45820	45655	42866	38953
3	29120	23639	27432	38348	31616	23728	21845	34855	45791	45498	42832	38908
4	28645	23629	27066	37711	31331	23425	22023	35408	45935	45391	42674	38656
5	28346	23619	27657	37357	31035	23009	22241	36041	45734	45420	42448	38310
6	28043	23599	27561	37130	30718	22602	22426	36599	45641	45455	42013	37889
7	27667	23584	27262	36936	30420	22198	22612	37180	45684	45235	41648	37388
8	27182	23569	26939	36754	30128	21796	22832	37685	45720	44845	41533	36942
9	26659	23554	26712	36686	29805	21388	23039	38425	45770	44520	41493	36443
10	26366	23544	26544	36686	29722	21007	23222	39044	45755	44345	41459	35911
11	25917	23534	26439	36667	29534	20653	23395	39623	45762	44247	41426	35396
12	25695	23514	27635	36555	29368	20300	23594	40095	45777	44149	41385	34995
13	25452	23509	28324	36369	29131	19909	23823	40764	45791	44030	41211	34583
14	25288	23499	28705	36053	28929	19547	24059	41358	45856	43855	41037	34092
15	25083	23489	28939	35776	28705	19198	24341	41905	45848	43737	41004	33687
16	24904	23499	29098	35476	28487	19193	24756	42455	45813	43744	40957	33279
17	24533	24169	29175	35128	28281	19253	25252	42887	45891	43737	40917	32791
18	24432	25586	29241	34801	27936	19317	25762	43438	45791	43730	40877	32314
19	24260	26006	29153	34463	27700	19400	26807	43862	45734	43716	40804	31823
20	24094	26397	29049	34187	27502	19529	27507	44282	45677	43702	40617	31370
21	23923	26665	29148	33871	27331	19441	28319	44549	45669	43660	40578	30899
22	23758	27166	29159	33740	27182	19258	28950	44429	45648	43640	40353	30645
23	23689	27379	29126	33426	26812	19203	29833	44697	45598	43626	40056	30229
24	23713	27528	29066	33120	26434	19322	30347	44732	45634	43487	39885	29900
25	23718	27630	29000	33308	26047	19451	30825	44852	45669	43265	39728	29445
26	23699	27726	29109	33385	25653	19626	31410	45071	45634	43245	39682	29071
27	23713	27807	29148	33225	25277	19820	32123	45320	45705	43224	39512	28792
28	23684	27893	29214	33037	24924	20127	32721	45448	45770	43203	39297	28699
29	23679	27941	29412	32832	---	20493	33131	45377	45820	43176	39251	28672
30	23689	28011	30156	32599	---	20875	33544	45420	45884	43148	39199	28628
31	23679	---	31256	32354	---	21212	---	45684	---	42955	39050	---
MAX	29961	28011	31256	40095	32129	24513	33544	45684	45935	45755	42907	38998
MIN	23679	23489	26439	32354	24924	19193	21479	34032	45598	42955	39050	28628
a	5412.77	5421.13	5426.99	5428.90	5415.24	5407.71	5430.93	5449.56	5449.84	5445.67	5439.82	5422.27
b	-6589	+4332	+3245	+1098	-7430	-3712	+12332	+12140	+200	-2929	-3905	-10422

CAL YR 1996 MAX 45927 MIN 23489 b +2437
WTR YR 1997 MAX 45935 MIN 19193 b -1640

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA

LOCATION.--Lat 38°49'08", long 120°21'51", in NW 1/4 NW 1/4 sec.12, T.11 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 300 ft upstream from Peavine Creek, 0.4 mi downstream from Ice House Dam, and 4.8 mi northwest of Kyburz.

DRAINAGE AREA.--27.5 mi^2.

PERIOD OF RECORD.--October 1924 to current year.

REVISED RECORDS.--WSP 1395: 1928, 1938. WSP 1635: Drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5,290 ft above sea level, from topographic map. Prior to Oct. 1, 1959, at site 0.3 mi upstream at different datum.

REMARKS.--Flow regulated by Ice House Reservoir (station 11441100) beginning in December 1959. Diversion to Jones Fork Powerplant (station 11440900) starting April 1985 bypasses station and returns to Silver Creek at Union Valley Reservoir (station 11441001). See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to construction of Ice House Dam in 1959, 3,940 ft^3/s, Dec. 23, 1955, gage height, 6.71 ft, site and datum then in use, from rating curve extended above 540 ft^3/s on basis of slope-area measurement at gage height 6.69 ft; no flow Oct. 31 to Nov. 9, 1958. Maximum discharge since construction of the dam, 7,530 ft^3/s, May 16, 1996, gage height, 7.64 ft, from rating curve extended above 730 ft^3/s on basis of computation of flow over dam at gage height 5.66 ft; minimum daily, 1.2 ft^3/s, Mar. 17-19, 1960.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	5.4	21	6.9	5.4	4.9	8.8	9.7	15	18	18
2	14	12	4.8	2840	6.6	5.4	4.7	8.7	9.5	16	18	18
3	14	12	4.6	1970	6.5	5.4	4.6	8.7	9.5	16	18	18
4	14	12	5.1	445	6.3	5.3	4.6	8.7	99	16	18	18
5	14	12	9.1	170	6.2	5.3	4.6	8.9	83	16	18	18
6	14	12	5.7	62	6.2	5.4	4.6	9.0	9.0	16	18	18
7	14	12	5.4	17	6.1	5.4	4.6	9.0	9.2	16	18	18
8	14	12	5.5	6.7	6.1	5.3	4.6	9.1	9.4	16	18	18
9	14	12	5.4	6.5	6.1	5.4	4.7	9.3	8.7	16	19	18
10	13	12	7.1	6.5	6.2	5.4	4.6	9.4	8.7	16	19	18
11	13	12	6.7	6.3	6.3	5.4	4.6	9.4	8.7	16	18	19
12	13	12	8.3	6.3	6.0	5.4	4.6	9.4	8.7	16	18	19
13	13	12	6.7	6.3	5.8	5.4	4.8	9.4	8.7	16	19	18
14	13	12	5.7	6.2	5.9	5.4	4.9	9.4	9.1	16	19	18
15	13	11	5.4	6.2	5.9	5.4	4.7	9.4	9.5	16	19	18
16	13	11	5.3	6.2	5.9	5.6	4.6	9.4	8.8	16	18	18
17	13	16	5.1	6.2	6.2	5.9	4.6	9.6	8.7	18	17	18
18	13	16	5.1	5.9	5.9	6.0	4.6	9.6	8.7	18	18	18
19	13	12	5.1	5.9	5.8	4.9	5.1	9.4	8.7	18	18	18
20	14	12	5.1	5.9	5.7	4.8	4.9	9.4	8.7	18	18	18
21	14	12	5.2	5.9	5.6	4.9	4.9	9.4	8.7	18	18	18
22	14	14	5.1	6.1	5.6	4.9	5.0	9.4	8.6	18	18	17
23	14	12	5.1	7.1	5.5	4.9	6.1	10	8.6	18	19	16
24	14	12	5.2	6.6	5.3	4.8	5.9	9.9	8.5	18	19	16
25	14	12	5.1	13	5.4	4.8	5.9	9.8	8.5	18	18	16
26	13	8.1	6.0	12	5.4	4.7	5.9	9.7	8.4	18	18	16
27	13	4.9	6.9	8.2	5.6	4.7	5.3	9.7	8.4	17	18	16
28	13	4.9	6.0	7.3	5.4	4.7	5.0	9.7	8.4	18	18	16
29	13	4.7	7.4	6.9	---	4.6	6.9	9.4	8.5	18	18	16
30	13	4.6	8.5	6.7	---	4.7	8.8	9.5	11	18	18	16
31	13	---	9.8	6.5	---	5.0	---	9.4	---	18	18	---
TOTAL	419	336.2	186.9	5692.4	166.4	160.6	153.6	289.9	431.6	524	564	525
MEAN	13.5	11.2	6.03	184	5.94	5.18	5.12	9.35	14.4	16.9	18.2	17.5
MAX	15	16	9.8	2840	6.9	6.0	8.8	10	99	18	19	19
MIN	13	4.6	4.6	5.9	5.3	4.6	4.6	8.7	8.4	15	17	16
AC-FT	831	667	371	11290	330	319	305	575	856	1040	1120	1040
a	6400	30	7850	14690	12060	11530	229	2600	5810	2970	2730	9550

a Diversion, in acre-feet, to Jones Fork Powerplant, provided by Sacramento Municipal Utility District.

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1959, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.98	24.1	36.6	31.3	35.8	61.6	155	296	197	42.7	5.82	2.03
MAX	28.0	326	305	163	91.7	191	280	531	418	132	22.8	7.62
(WY)	1948	1951	1951	1956	1925	1928	1943	1952	1952	1952	1952	1952
MIN	.65	.64	2.34	3.00	3.00	6.92	54.9	66.2	35.0	2.92	.22	.18
(WY)	1933	1930	1933	1933	1933	1933	1944	1934	1931	1934	1931	1931

SUMMARY STATISTICS	WATER YEARS 1925 - 1959	
ANNUAL MEAN	74.5	
HIGHEST ANNUAL MEAN	123	1956
LOWEST ANNUAL MEAN	25.3	1931
HIGHEST DAILY MEAN	2780	Dec 23 1955
LOWEST DAILY MEAN	.00	Oct 31 1958
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 31 1958
INSTANTANEOUS PEAK FLOW	3940	Dec 23 1955
INSTANTANEOUS PEAK STAGE	6.71	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	53970	
10 PERCENT EXCEEDS	237	
50 PERCENT EXCEEDS	20	
90 PERCENT EXCEEDS	1.4	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1984, BY WATER YEAR (WY)

MEAN	112	87.6	49.4	57.1	71.2	43.6	56.0	125	157	78.1	80.9	90.1
MAX	330	332	171	216	316	199	348	449	382	363	378	360
(WY)	1970	1966	1980	1982	1971	1969	1983	1982	1983	1983	1983	1983
MIN	5.64	5.05	5.21	4.76	5.48	3.67	2.94	4.17	3.80	4.02	3.79	3.97
(WY)	1965	1963	1963	1967	1973	1984	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	WATER YEARS 1961 - 1984	
ANNUAL MEAN	84.0	
HIGHEST ANNUAL MEAN	226	1983
LOWEST ANNUAL MEAN	24.8	1977
HIGHEST DAILY MEAN	1560	Jan 22 1970
LOWEST DAILY MEAN	1.3	Jan 26 1984
ANNUAL SEVEN-DAY MINIMUM	1.4	Jan 24 1984
INSTANTANEOUS PEAK FLOW	1930	May 26 1982
INSTANTANEOUS PEAK STAGE	5.74	May 26 1982
ANNUAL RUNOFF (AC-FT)	60830	
10 PERCENT EXCEEDS	256	
50 PERCENT EXCEEDS	12	
90 PERCENT EXCEEDS	5.3	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

MEAN	9.38	7.31	5.46	20.1	5.70	9.98	5.33	14.4	21.2	14.9	11.2	11.2
MAX	13.9	11.2	6.12	184	7.03	55.0	6.13	87.9	168	61.9	18.2	17.6
(WY)	1990	1997	1993	1997	1986	1986	1990	1996	1995	1995	1997	1996
MIN	5.32	5.65	4.78	3.65	3.97	4.13	4.01	5.49	5.54	5.46	5.21	5.29
(WY)	1989	1993	1990	1987	1987	1987	1986	1988	1988	1987	1992	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1986 - 1997	
ANNUAL TOTAL	6287.7		9449.6			
ANNUAL MEAN	17.2		25.9		11.4	
HIGHEST ANNUAL MEAN					26.2	1995
LOWEST ANNUAL MEAN					5.68	1988
HIGHEST DAILY MEAN	1250	May 16	2840	Jan 2	2840	Jan 2 1997
LOWEST DAILY MEAN	3.9	Jan 11	4.6	Nov 30	2.8	Jan 3 1986
ANNUAL SEVEN-DAY MINIMUM	4.0	Jan 6	4.6	Apr 2	3.0	Apr 11 1989
INSTANTANEOUS PEAK FLOW			4440	Jan 2	7530	May 16 1996
INSTANTANEOUS PEAK STAGE			7.34	Jan 2	7.64	May 16 1996
ANNUAL RUNOFF (AC-FT)	12470		18740		8250	
ANNUAL DIVERSION (AC-FT) a	77860		76440			
10 PERCENT EXCEEDS	18		18		16	
50 PERCENT EXCEEDS	10		9.4		6.0	
90 PERCENT EXCEEDS	5.0		4.9		4.6	

a Diversion, in acre-feet, to Jones Fork Powerplant, provided by Sacramento Municipal Utility District.

11441760 JUNCTION RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°51'07", long 120°27'22", in SW 1/4 SW 1/4 sec.30, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, in outlet structure to Jaybird Powerplant 100 ft upstream from left abutment of Junction Diversion Dam, 0.3 mi downstream from South Fork Silver Creek and 9.0 mi northeast of Pollock Pines.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Apr. 13, 1987, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete arch dam completed in 1962. Storage began in 1962. Usable capacity, 2,368 acre-ft, between elevations 4,397 ft, maximum drawdown level, and 4,450 ft, crest of spillway. Dead storage, 862 acre-ft. Most of the flow is diverted at this reservoir to Jaybird Powerplant (station 11441780). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,737 acre-ft, Jan. 2, 1997, elevation, 4,459.10 ft; minimum, 875 acre-ft, Oct. 3, 1991, elevation, 4,397.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,737 acre-ft, Jan. 2, elevation, 4,459.10 ft; minimum, 891 acre-ft, May 12, elevation, 4,398.03 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

4,390	692	4,420	1,703
4,400	949	4,440	2,687
4,410	1,290	4,460	3,788

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2962	2230	3049	3643	3308	3284	3141	3062	2989	3084	2961	3015
2	2996	2271	3070	3737	3308	3287	3122	2873	2992	2908	2786	2981
3	3003	2309	2856	3598	3309	3287	3108	3109	3109	2840	2816	3014
4	3051	2346	2691	3510	3300	3180	3167	3141	3366	2931	3148	2906
5	2927	2380	3145	3446	3299	2985	3145	2907	3345	2979	3145	2782
6	3022	2528	2946	3398	3290	3290	3097	3138	3046	3000	3051	2953
7	3053	2734	2491	3366	3295	3288	3128	2847	2998	3056	3080	2920
8	2959	3041	2243	3344	3297	3287	3088	2542	2994	2846	2808	2847
9	2862	3077	2200	3325	3281	3287	3120	2116	3105	3127	3136	2946
10	3147	2915	2436	3316	3243	3288	3094	1707	2833	3019	2842	3011
11	2870	3021	2799	3313	3280	3287	3073	1206	3140	3149	2961	2913
12	2895	2978	3345	3305	3221	3231	3177	891	3069	3178	2820	2933
13	2909	3032	3321	3303	3366	3285	3068	895	3073	3103	3055	2973
14	2846	3138	3311	3302	3366	3139	3022	1410	3116	3139	2958	2971
15	2850	2937	3304	3300	3293	3090	3062	2669	3043	3136	2883	3016
16	3036	2956	3295	3298	3294	3077	3165	2971	3090	3002	2980	3013
17	2833	2989	3290	3300	3298	2634	3016	2703	2916	2858	3153	2983
18	2701	2988	3289	3297	3294	3025	3066	2683	2795	3025	3176	3016
19	3047	2434	3289	3159	3297	3029	3028	2359	2972	2891	2972	3057
20	2781	2630	3239	3065	3297	3124	3055	2214	3198	3073	2717	2935
21	2853	2792	3219	3059	3294	2902	2954	2951	3053	2985	3150	2951
22	2839	2836	3126	3298	3291	3074	2968	2806	3025	3094	2992	2909
23	2999	2734	3081	3304	3292	3067	2856	2849	2976	3155	3023	3004
24	2927	2547	2947	3301	3301	2940	2819	2772	2938	2984	3100	2974
25	2963	2980	2760	3369	1955	2673	3136	2681	3063	3000	2955	2889
26	2914	2951	2699	3358	1885	2751	2855	2694	3036	3035	3048	3003
27	2994	2820	2944	3330	2419	3091	3008	2678	2619	3063	2974	3043
28	2719	3078	3078	3321	2909	3124	3093	2970	2930	2934	3064	2859
29	2449	2717	3278	3314	---	3163	2929	2970	2614	2919	2977	2991
30	1821	3096	3374	3310	---	3153	2776	2953	2736	3096	2776	2957
31	2191	---	3395	3308	---	3146	---	2757	---	3057	3077	---
MAX	3147	3138	3395	3737	3366	3290	3177	3141	3366	3178	3176	3057
MIN	1821	2230	2200	3059	1885	2634	2776	891	2614	2840	2717	2782
a	4430.35	4447.57	4452.98	4451.40	4444.13	4448.48	4441.66	4441.31	4440.92	4446.85	4447.21	4445.01
b	-766	+905	+299	-87	-399	+237	-370	-19	-21	+321	+20	-120

CAL YR 1996 MAX 3520 MIN 1821 b +666
WTR YR 1997 MAX 3737 MIN 891 b 0

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11441800 SILVER CREEK BELOW JUNCTION DAM, NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°51'08", long 120°27'22", in SW 1/4 SW 1/4 sec.30, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, at outlet structure on Junction Dam, and 9 mi northeast of Pollock Pines.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--October 1987 to current year (low-flow records only). Unpublished records for water years 1965-87 available in files of the U.S. Geological Survey.

GAGE.--Differential-pressure gage and orifice control in outlet pipe. Auxiliary nonrecording gage 550 ft downstream at different datum. Elevation of gage is 4,280 ft above sea level, from topographic map. August 1964 to December 1986, nonrecording gage at site 500 ft downstream at different datum. December 1986 to September 1987, nonrecording gage at site 550 ft downstream.

REMARKS.--Records not computed above 30 ft^3/s. Flow completely regulated by Junction Dam. Flow over the spillway bypasses this station. Diversion through Jaybird Powerplant (station 11441780) since 1962 bypasses this station. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	15	14	---	---	---	11	21	22	22	22	22
2	21	12	13	---	---	---	11	21	22	22	22	22
3	21	12	13	---	---	---	11	21	22	22	22	22
4	21	12	14	---	---	---	11	21	---	22	22	22
5	21	13	17	---	---	19	11	21	---	22	22	22
6	21	12	15	---	---	---	11	21	---	22	22	22
7	21	12	14	---	---	---	11	22	22	22	22	22
8	21	13	12	---	---	---	11	20	22	22	22	22
9	21	13	13	---	---	---	11	21	22	22	22	22
10	21	13	15	---	---	---	11	21	22	22	22	22
11	21	13	15	---	---	---	11	21	22	22	22	22
12	21	13	---	---	---	---	11	22	22	22	22	22
13	22	13	---	---	---	---	11	25	22	22	22	22
14	21	13	---	---	---	19	11	25	22	22	22	22
15	21	13	---	---	---	19	11	28	22	22	22	22
16	21	13	---	---	---	19	11	29	22	22	22	22
17	21	15	---	---	---	14	11	30	22	22	22	22
18	21	13	---	---	---	11	11	30	22	22	22	22
19	21	13	---	---	---	11	11	29	22	22	22	22
20	21	13	---	19	---	11	11	29	22	22	22	22
21	21	13	14	19	---	11	11	29	22	22	22	22
22	21	14	19	---	---	11	11	30	22	22	22	22
23	21	14	18	---	---	11	11	---	22	22	22	22
24	21	13	18	---	---	11	11	---	22	22	22	22
25	21	13	18	---	18	11	11	30	22	22	22	22
26	21	13	18	---	16	11	11	30	22	22	22	22
27	21	13	18	---	17	12	11	30	22	22	22	22
28	21	13	18	---	18	11	11	---	22	22	22	22
29	21	13	---	---	---	11	15	26	22	22	22	22
30	21	13	---	---	---	11	21	22	22	22	22	22
31	21	---	---	---	---	11	---	22	---	22	22	---
TOTAL	653	391	---	---	---	---	344	---	---	682	682	660
MEAN	21.1	13.0	---	---	---	---	11.5	---	---	22.0	22.0	22.0
MAX	22	15	---	---	---	---	21	---	---	22	22	22
MIN	21	12	---	---	---	---	11	---	---	22	22	22
AC-FT	1300	776	---	---	---	---	682	---	---	1350	1350	1310
a	35550	20960	65450	84770	75820	79110	18460	14500	36950	38380	43220	61150

CAL YR 1996 a 589400
WTR YR 1997 a 574300

a Diversion, in acre-feet, to Jaybird Powerplant, provided by Sacramento Municipal Utility District.

11441890 CAMINO RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°49'44", long 120°32'09", in NW 1/4 NW 1/4 sec.4, T.11 N., R.13 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in outlet tower to Camino Powerplant 100 ft upstream from right abutment of Camino Diversion Dam, 0.3 mi upstream from Round Tent Canyon, and 5.3 mi northwest of Pollock Pines.

DRAINAGE AREA.--160 mi^2.

PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Apr. 8, 1987, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-arch dam completed in 1961. Storage began in 1961. Usable capacity, 763 acre-ft, between elevations 2,840 ft, centerline of outlet valve, and 2,915 ft, maximum water surface level. Dead storage, 50 acre-ft. Most of the water is diverted at this reservoir to Camino Powerplant (station 11441895). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 819 acre-ft, Jan. 21, 1993, elevation, 2,915.29 ft; minimum, 260 acre-ft, Jan. 27, 1993, elevation, 2,874.27 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 739 acre-ft, Sept. 5, elevation, 2,910.85 ft; minimum, 316 acre-ft, Jan. 9, elevation, 2,880.10 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

2,860	149	2,900	564
2,870	223	2,910	724
2,880	315	2,920	910
2,890	428		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	622	525	711	725	664	681	628	649	566	630	595	636
2	573	539	581	431	625	629	648	629	540	657	690	612
3	519	553	586	371	612	704	626	630	498	656	641	616
4	655	567	591	343	658	660	509	650	672	571	609	731
5	611	541	719	332	633	653	580	627	621	672	645	739
6	597	454	667	324	518	705	664	636	629	661	640	719
7	574	702	691	323	660	686	670	622	639	607	590	735
8	595	687	564	319	661	659	627	686	685	560	626	525
9	575	680	461	316	612	695	618	630	661	587	625	539
10	654	643	599	493	633	667	648	639	570	627	606	682
11	625	623	624	526	550	649	648	630	607	648	632	678
12	631	658	400	569	659	599	647	579	602	621	656	657
13	611	653	646	661	699	663	659	607	659	679	628	622
14	646	648	652	636	599	643	661	603	633	640	628	665
15	598	641	619	642	624	661	618	646	630	595	726	607
16	632	605	599	634	599	628	651	682	574	655	671	601
17	612	655	621	642	665	584	603	570	580	648	667	621
18	652	638	675	674	655	626	668	572	613	658	682	604
19	508	584	582	652	611	634	610	564	622	664	649	597
20	561	644	540	614	615	683	660	618	616	636	631	651
21	617	681	632	685	625	627	624	585	655	635	667	628
22	606	666	569	641	582	678	628	594	666	672	622	614
23	601	513	628	630	589	633	638	667	621	620	659	628
24	679	639	613	584	728	619	631	647	660	608	648	640
25	657	598	614	558	460	674	626	559	680	633	642	600
26	668	708	668	569	622	609	560	634	690	727	645	528
27	685	619	591	579	656	611	586	641	575	683	622	628
28	601	629	607	572	689	635	615	580	584	651	577	615
29	692	568	655	532	---	672	628	629	605	657	630	639
30	647	655	663	618	---	620	627	597	601	514	584	645
31	535	---	672	680	---	572	---	606	---	631	660	---
MAX	692	708	719	725	728	705	670	686	690	727	726	739
MIN	508	454	400	316	460	572	509	559	498	514	577	525
a	2898.02	2905.91	2906.95	2907.43	2907.96	2900.55	2904.13	2902.80	2902.45	2904.38	2906.18	2905.29
b	-153	+120	+17	+8	+9	-117	+55	-21	-5	+30	+29	-15

CAL YR 1996 MAX 734 MIN 399 b +115
WTR YR 1997 MAX 739 MIN 316 b -43

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA

LOCATION.--Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on right bank 300 ft downstream from Round Tent Canyon, 0.4 mi downstream from diversion dam, and 5 mi northeast of Pollock Pines.

DRAINAGE AREA.--171 mi^2.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft above sea level (Sacramento Municipal Utility District benchmark).

REMARKS.--Flow is regulated by Ice House Reservoir (station 11441100) since 1959, Union Valley Reservoir (station 11441001) since 1962, and Junction and Camino Reservoirs (stations 11441760 and 11441890). Diversion to Camino Powerplant (station 11441895) since 1961 bypasses this station. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 47,700 ft^3/s, Jan. 2, 1997, gage height, 15.72 ft, backwater from log jam, from rating curve extended above 4,700 ft^3/s on basis of slope-area measurement at gage height 11.28 ft; minimum daily, 1.0 ft^3/s, Nov. 1, 1980.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	17	13	12400	896	133	14	23	23	22	23	23
2	30	10	11	e32900	876	424	14	22	23	23	23	23
3	30	10	11	21700	828	401	14	23	23	22	23	22
4	30	10	12	12200	744	505	14	23	248	22	23	23
5	30	10	414	7580	742	132	14	23	1330	23	23	23
6	30	10	49	4950	692	141	14	23	715	23	22	23
7	30	11	33	4010	556	422	14	23	24	23	23	23
8	30	11	24	3250	650	407	14	23	24	23	23	23
9	30	10	19	2850	629	385	14	24	24	23	23	24
10	30	10	40	2100	321	434	14	23	24	23	23	24
11	30	10	50	1160	333	417	13	23	23	23	23	24
12	30	11	1580	1040	276	357	13	23	24	23	23	24
13	30	11	1350	1000	229	78	13	24	24	23	23	24
14	30	11	947	1030	565	170	13	24	23	23	23	24
15	31	10	685	1020	547	73	13	24	23	23	23	24
16	30	10	550	976	539	109	13	24	24	23	22	23
17	30	14	439	865	542	98	13	24	23	23	23	24
18	30	15	345	499	568	41	13	24	23	23	23	24
19	30	11	400	358	539	39	15	25	23	23	23	23
20	30	11	296	331	617	38	13	25	23	23	22	23
21	30	14	88	300	475	36	13	24	23	23	22	23
22	30	26	130	624	468	35	13	25	23	23	22	23
23	30	19	96	1200	453	34	14	24	23	23	22	23
24	30	13	11	965	644	33	13	24	23	23	22	23
25	31	11	11	2290	295	22	13	24	23	23	22	23
26	30	11	25	3480	34	10	13	24	23	23	23	22
27	31	11	433	1990	131	18	13	25	23	23	22	22
28	30	11	377	1500	113	17	13	24	23	23	22	22
29	31	11	376	1270	---	15	15	22	22	22	22	22
30	31	11	1680	1030	---	15	23	23	22	23	22	22
31	30	---	3020	903	---	15	---	22	---	23	22	---
TOTAL	935	361	13515	127771	14302	5054	415	731	2919	709	700	693
MEAN	30.2	12.0	436	4122	511	163	13.8	23.6	97.3	22.9	22.6	23.1
MAX	31	26	3020	32900	896	505	23	25	1330	23	23	24
MIN	30	10	11	300	34	10	13	22	22	22	22	22
AC-FT	1850	716	26810	253400	28370	10020	823	1450	5790	1410	1390	1370
a	36960	24060	74170	58760	76830	82220	21390	17300	39140	40280	44930	62960

e Estimated.

a Diversion, in acre-feet, to Camino Powerplant, provided by Sacramento Municipal Utility District.

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.2	46.5	76.2	214	124	114	123	199	129	64.5	32.8	26.3
MAX	138	1088	856	4122	1168	1207	956	1505	1019	503	364	188
(WY)	1995	1984	1965	1997	1986	1986	1962	1995	1995	1995	1962	1962
MIN	3.12	3.44	5.39	5.21	5.45	3.56	3.14	3.30	3.29	2.98	3.11	3.18
(WY)	1978	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1961 - 1997	
ANNUAL TOTAL	61902		168105			
ANNUAL MEAN	169		461		98.1	
HIGHEST ANNUAL MEAN					461	1997
LOWEST ANNUAL MEAN					4.16	1977
HIGHEST DAILY MEAN	6170	May 16	32900	Jan 2	32900	Jan 2 1997
LOWEST DAILY MEAN	10	Nov 2	10	Nov 2	1.0	Nov 1 1980
ANNUAL SEVEN-DAY MINIMUM	10	Nov 2	10	Nov 2	2.7	Mar 2 1977
INSTANTANEOUS PEAK FLOW			47700	Jan 2	47700	Jan 2 1997
INSTANTANEOUS PEAK STAGE			15.72	Jan 2	15.72	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	122800		333400		71070	
ANNUAL DIVERSION (AC-FT) a	643300		579000			
10 PERCENT EXCEEDS	334		743		146	
50 PERCENT EXCEEDS	29		23		19	
90 PERCENT EXCEEDS	11		13		6.8	

a Diversion, in acre-feet, to Camino Powerplant, provided by Sacramento Municipal Utility District.

11442690 BRUSH CREEK RESERVOIR NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°48'42", long 120°37'14", in NW 1/4 SE 1/4 sec.10, T.11 N., R.12 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, in outlet tower to Camino Powerplant 200 ft upstream from left abutment of Brush Creek Diversion Dam, and 4.0 mi northwest of Pollock Pines.

DRAINAGE AREA.--7.99 mi^2.

PERIOD OF RECORD.--October 1991 to current year. Unpublished records for water years 1980-91 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to Apr. 7, 1987, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-arch dam completed in 1970. Storage began in 1970. Usable capacity, 1,273 acre-ft, between elevations 2,825 ft, invert of tunnel, and 2,915 ft, crest of spillway. Dead storage, 259 acre-ft. Most of the water is diverted at this reservoir to Camino Powerplant (station 11441895). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,546 acre-ft, Jan. 25, 1997, elevation, 2,915.72 ft; minimum, 541 acre-ft, June 29, 1995, elevation, 2,853.64 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,546 acre-ft, Jan. 25, elevation, 2,915.72 ft; minimum, 617 acre-ft, Dec. 21, elevation, 2,859.87 ft.

REVISIONS.--The maximum elevation for the water year 1995 has been revised to 2,914.07 ft, Jan. 10, 1995.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by Sacramento Municipal Utility District, recomputed October 1991)

2,820	220	2,870	753
2,830	300	2,880	900
2,840	393	2,890	1,062
2,850	499	2,900	1,239
2,860	619	2,915	1,532

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1205	1184	1232	1544	1279	1102	1047	1305	1246	1292	1275	1145
2	1204	1203	1271	1543	1208	1123	1057	1308	1206	1294	1276	1134
3	1203	1221	1263	1540	1087	1040	1067	1306	1155	1295	1277	1130
4	1202	1239	1262	1539	1007	1104	1077	1308	1130	1298	1277	1034
5	1201	1188	1529	1538	926	1038	1223	1307	1051	1299	1212	982
6	1201	1091	1329	1537	860	984	1307	1300	987	1302	1192	957
7	1201	1263	1281	1527	807	950	1378	1299	977	1305	1269	938
8	972	1237	1238	1529	749	936	1367	1301	931	1307	1242	928
9	975	1232	1219	1531	724	896	1361	1303	942	1274	1236	1082
10	976	1218	1296	1533	731	830	1365	1303	1268	1259	1230	1191
11	1114	1208	1401	1534	760	804	1369	1333	1232	1254	1223	1162
12	1120	1201	1286	1535	802	806	1370	1311	1221	1254	1222	1149
13	1268	1195	1164	1535	842	821	1372	1304	1226	1256	1220	1142
14	1251	1235	934	1535	865	837	1377	1295	1234	1256	1217	1137
15	1287	1264	848	1535	784	853	1382	1331	1240	1256	1216	1164
16	1265	1216	782	1535	751	869	1388	1304	1226	1256	1215	1134
17	1261	1237	747	1535	709	884	1394	1246	1186	1247	1215	1120
18	1259	1269	734	1535	651	948	1404	1223	1168	1257	1213	1114
19	1259	1277	694	1535	629	904	1425	1207	1274	1258	1212	1110
20	1258	1285	636	1366	647	892	1434	1298	1256	1258	1212	1221
21	1257	1304	617	1289	678	901	1443	1348	1249	1259	1213	1210
22	1256	1363	618	1347	704	989	1452	1333	1360	1260	1213	1206
23	1255	1366	634	1449	733	1022	1464	1357	1330	1262	1212	1202
24	1279	1291	760	1426	1183	981	1338	1360	1302	1265	1212	1197
25	1339	1196	688	1546	1169	974	1308	1325	1283	1266	1212	1194
26	1364	1154	673	1485	1123	982	1300	1311	1293	1268	1212	1191
27	1316	1289	830	1525	1094	993	1294	1295	1288	1269	1212	1188
28	1285	1216	940	1493	1089	1004	1294	1287	1286	1271	1145	1184
29	1306	1207	1069	1402	---	1014	1296	1295	1287	1272	1102	1181
30	1254	1266	1329	1306	---	1025	1301	1264	1290	1273	1085	1138
31	1190	---	1272	1280	---	1037	---	1247	---	1274	1168	---
MAX	1364	1366	1529	1546	1279	1123	1464	1360	1360	1307	1277	1221
MIN	972	1091	617	1280	629	804	1047	1207	931	1247	1085	928
a	2897.32	2901.50	2901.77	2902.24	2891.58	2888.49	2903.37	2900.47	2902.76	2901.92	2896.10	2894.41
b	-16	+76	+6	+8	-191	-52	+264	-54	+43	-16	-106	-30

CAL YR 1996 MAX 1529 MIN 617 b +38
WTR YR 1997 MAX 1546 MIN 617 b -68

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11442700 BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°48'41", long 120°37'20", in NW 1/4 SE 1/4 sec.10, T.11 N., R.12 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, at outlet structure on Brush Creek Dam, and 4.0 mi northwest of Pollock Pines.

DRAINAGE AREA.--7.99 mi^2.

PERIOD OF RECORD.--October 1987 to current year. Unpublished records for water years 1971-87 available in files of the U.S. Geological Survey.

GAGE.--Differential-pressure gage and orifice control in outlet pipe. Auxiliary water-stage recorder 200 ft downstream at different datum. Elevation of gage is 2,700 ft above sea level, from topographic map. Prior to October 1987, nonrecording gage 400 ft downstream at different datum.

REMARKS.--Flow completely regulated by Brush Creek Reservoir (station 11442690). See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 620 ft^3/s, Jan. 2, 1997; minimum daily, 2.1 ft^3/s, many days in 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	6.3	6.9	72	7.3	9.3	9.2	9.3	8.8	3.7	3.6	3.6
2	3.4	6.3	6.9	e620	7.3	9.5	9.3	9.3	5.4	3.7	3.6	3.6
3	3.4	6.2	6.9	e405	7.3	9.4	9.3	9.2	3.0	3.7	3.6	3.6
4	3.3	6.5	6.9	e64	7.1	9.2	9.3	9.2	3.2	3.7	3.6	3.5
5	3.4	6.6	7.3	e49	6.9	9.3	9.7	9.2	3.1	3.7	3.6	3.5
6	3.4	6.6	8.1	e43	6.7	9.2	10	9.2	3.0	3.7	3.6	3.5
7	3.4	6.5	6.8	25	6.6	9.0	10	9.1	3.0	3.7	3.6	3.5
8	3.4	6.5	6.7	7.2	6.6	8.9	e20	9.2	3.0	3.7	3.6	3.4
9	3.4	6.5	6.8	7.3	6.9	8.8	e18	9.2	3.2	3.7	3.7	3.4
10	3.4	6.5	7.0	9.4	6.8	8.7	11	9.2	3.7	3.7	3.7	3.6
11	3.4	6.4	6.9	13	7.3	8.4	11	9.2	3.7	3.7	3.7	3.6
12	3.4	6.4	7.0	17	8.2	8.4	11	9.2	3.6	3.7	3.7	3.6
13	3.4	6.5	6.9	21	8.1	8.4	11	9.2	3.6	3.6	3.7	3.6
14	3.4	6.5	6.8	22	8.3	8.5	10	9.0	3.6	3.6	3.6	3.5
15	3.4	6.5	6.9	23	8.3	8.6	9.6	9.1	3.6	3.6	3.6	3.6
16	3.4	6.4	6.9	23	8.1	8.6	9.5	9.1	3.6	3.6	3.6	3.6
17	3.5	6.6	6.8	e23	8.0	8.7	9.5	9.0	3.6	3.6	3.6	3.5
18	3.5	6.6	6.6	e23	7.7	8.9	9.6	8.9	3.7	3.5	3.6	3.5
19	3.5	6.6	6.6	23	7.6	8.8	9.6	8.8	3.7	3.6	3.6	3.5
20	3.5	6.6	6.5	12	7.6	8.7	9.6	8.8	3.7	3.6	3.6	3.5
21	3.5	6.7	6.5	7.3	e7.4	8.8	9.6	9.1	3.6	3.6	3.6	3.5
22	3.5	6.7	6.5	7.3	e7.6	9.0	9.6	9.1	3.7	3.6	3.6	3.5
23	3.5	6.6	6.5	7.3	7.9	9.2	9.7	9.1	3.7	3.6	3.6	3.5
24	3.5	6.6	6.9	7.3	8.2	9.1	9.5	9.3	3.7	3.6	3.6	3.6
25	3.5	6.7	6.8	60	9.5	9.0	9.4	9.2	3.6	3.6	3.6	3.6
26	3.5	6.8	6.7	171	9.4	9.1	9.4	9.0	3.6	3.6	3.6	3.6
27	3.5	6.9	7.0	7.3	9.3	9.2	9.3	9.0	3.6	3.6	3.6	3.6
28	3.5	6.8	7.1	7.3	9.3	9.2	9.3	8.9	3.8	3.6	3.5	3.6
29	3.5	6.9	7.2	7.3	---	9.2	9.2	8.9	3.7	3.6	3.4	3.6
30	3.4	6.9	7.1	7.3	---	9.2	9.3	8.9	3.7	3.6	3.5	3.5
31	5.5	---	7.1	7.3	---	9.2	---	8.8	---	3.6	3.6	---
TOTAL	108.7	197.2	213.6	1798.6	217.3	277.5	310.5	281.7	112.5	112.7	111.7	106.3
MEAN	3.51	6.57	6.89	58.0	7.76	8.95	10.4	9.09	3.75	3.64	3.60	3.54
MAX	5.5	6.9	8.1	620	9.5	9.5	20	9.3	8.8	3.7	3.7	3.6
MIN	3.3	6.2	6.5	7.2	6.6	8.4	9.2	8.8	3.0	3.5	3.4	3.4
AC-FT	216	391	424	3570	431	550	616	559	223	224	222	211

e Estimated.

11442700 BRUSH CREEK BELOW BRUSH CREEK DAM, NEAR POLLOCK PINES, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.93	5.46	5.48	10.5	5.50	5.75	5.93	5.72	3.16	3.06	3.01	2.99
MAX	3.86	8.06	7.81	58.0	7.76	8.95	10.4	9.09	4.43	4.26	3.87	3.81
(WY)	1994	1990	1990	1997	1997	1997	1997	1997	1995	1995	1995	1993
MIN	2.44	4.16	4.09	4.10	4.12	4.39	4.23	4.28	2.24	2.18	2.14	2.14
(WY)	1993	1991	1988	1988	1988	1992	1988	1988	1988	1988	1988	1988

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1988 - 1997	
ANNUAL TOTAL	1938.5		3848.3			
ANNUAL MEAN	5.30		10.5		4.96	
HIGHEST ANNUAL MEAN					10.5	1997
LOWEST ANNUAL MEAN					3.39	1988
HIGHEST DAILY MEAN	8.1	Dec 6	620	Jan 2	620	Jan 2 1997
LOWEST DAILY MEAN	3.3	Jun 13	3.0	Jun 3	2.1	Jul 4 1988
ANNUAL SEVEN-DAY MINIMUM	3.3	Jul 3	3.1	Jun 3	2.1	Aug 15 1988
ANNUAL RUNOFF (AC-FT)	3850		7630		3590	
10 PERCENT EXCEEDS	6.9		9.5		6.9	
50 PERCENT EXCEEDS	6.2		6.7		4.4	
90 PERCENT EXCEEDS	3.4		3.5		2.4	

11443450 SLAB CREEK RESERVOIR NEAR CAMINO, CA

LOCATION.--Lat 38°46'21", long 120°41'58", in SW 1/4 NE 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, Eldorado National Forest, on left bank 100 ft upstream from dam on South Fork American River, 1,600 ft upstream from Iowa Canyon, and 2.7 mi northwest of Camino.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--May 1987 to current year. Unpublished records for water years 1969-86 available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Sacramento Municipal Utility District). Prior to May 26, 1987, nonrecording gage at same site and datum. September 1980 to October 1993, supplementary water-stage recorder at left abutment of dam operated by U.S. Geological Survey during periods of spill.

REMARKS.--Reservoir is formed by concrete-arch dam completed in 1967. Storage began in October 1967. Usable capacity, 16,567 acre-ft, between elevations 1,670 ft, invert of tunnel, and 1,850 ft, crest of spillway. Dead storage, 600 acre-ft. Reservoir receives water from South Fork American River and Silver Creek via El Dorado and Camino Powerplants (station 11441895) 10 mi upstream. Nearly the entire flow is diverted at this reservoir to White Rock Powerplant (station 11443460). See South Fork American River near Camino (station 11443500) for additional information on diversions and releases from Slab Creek Reservoir. Records, including extremes, represent usable contents. See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 18,637 acre-ft, Jan. 1, 1997, elevation, 1,859.70 ft; minimum, 3,917 acre-ft, Oct. 27, 1991, elevation, unknown.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,637 acre-ft, Jan. 1, elevation, 1,859.70 ft, minimum, 11,581 acre-ft, Nov. 7, elevation, 1,823.11.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Sacramento Municipal Utility District recomputed October 1991)

1,730	1,688	1,800	8,124
1,740	2,276	1,820	11,073
1,750	2,966	1,840	14,587
1,760	3,763	1,850	16,567
1,780	5,700	1,855	17,615

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14682	15396	16100	18637	16757	15705	15880	15558	15301	14855	15301	15067
2	15408	14920	15941	18443	16740	16226	16076	15997	15929	15349	15583	14889
3	15266	14323	15241	17731	17000	15341	16070	15675	16041	15731	15657	14539
4	14887	13513	14600	17381	16942	16201	16403	15556	16794	15611	15746	14284
5	15534	12360	16434	17206	16925	16338	16362	14949	16801	15677	15435	15247
6	15637	11870	15554	17007	16919	15890	16045	15687	16126	15298	15143	14970
7	15895	11581	14320	16913	16900	16183	16173	15479	15241	14609	14611	15309
8	15215	12764	13569	16896	16654	16155	16080	15558	15130	14452	14691	15583
9	14188	13242	12379	16798	16512	15923	16201	15437	14250	15110	14556	15013
10	14759	14167	14190	16747	15673	16242	16207	15685	13666	15577	14535	14454
11	14843	14537	14686	16641	15110	16086	16181	15477	14805	15412	14824	14648
12	15459	14945	17183	16551	15034	15880	16276	15378	15225	15629	14261	14753
13	15695	15392	16934	16419	15058	15826	16066	15742	15398	15713	13994	14941
14	15691	15425	16732	16199	15333	15983	15826	15822	15897	15274	14623	15603
15	15556	15490	16676	16315	15488	16090	15554	15128	15290	14911	14930	14808
16	15901	15471	16590	16209	15368	16161	16140	15439	15556	15266	15030	14531
17	15575	15603	15991	16074	15461	16191	16078	15854	15027	15715	15135	14528
18	15502	15132	15249	16409	15219	15989	15957	15063	15679	15380	15500	15077
19	15939	13406	13933	15955	15137	15747	16189	16078	14967	15321	15955	15186
20	15417	13794	13864	15697	15266	15691	15721	15617	15804	15362	15876	15288
21	15667	13793	13937	15577	15725	16088	16248	15530	15748	14849	15459	15274
22	15890	15351	13977	17051	15907	15890	15174	15258	15683	15108	15096	15577
23	15298	15323	14853	16884	15689	15897	15149	15258	15301	14849	15544	15370
24	14812	14269	14199	16763	14634	16062	15196	15126	14870	14590	15540	15303
25	14810	14774	13857	17381	14732	15784	15901	15025	14934	15221	15139	15243
26	14901	15441	13681	17307	15040	16120	15651	15225	15402	15079	14828	15667
27	14709	15635	16716	17000	16195	16270	15981	15643	15415	15392	14793	15309
28	15441	15508	16732	16992	16163	16124	15532	15455	15410	15392	14661	15106
29	15354	16084	17170	16830	---	15989	15691	14783	15019	14736	14934	14590
30	15995	16236	17267	16728	---	15681	15073	15826	15056	15343	15251	14265
31	16074	---	17428	16695	---	16222	---	15353	---	15190	15488	---
MAX	16074	16236	17428	18637	17000	16338	16403	16078	16801	15731	15955	15667
MIN	14188	11581	12379	15577	14634	15341	15073	14783	13666	14452	13994	14265
a	1847.58	1848.38	1854.12	1850.62	1848.02	1848.31	1842.53	1843.96	1842.44	1843.13	1844.65	1838.30
b	+1486	+162	+1192	-733	-532	+59	-1149	+280	-297	+134	+298	-1223

CAL YR 1996 MAX 17558 MIN 11581 b +1957
WTR YR 1997 MAX 18637 MIN 11581 b -323

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA

LOCATION.--Lat 38°46'23", long 120°42'02", in SW 1/4 NE 1/4 sec.25, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, on right bank 500 ft upstream from Iowa Canyon Creek, and 2.8 mi northwest of Camino.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for October 1922, WSP 1315-A. Records for river and American River Flume, published separately October 1922 to September 1956, October 1962 to December 1964 when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

REVISED RECORDS.--WSP 931: 1928, 1938, 1940(M). WSP 1931: Drainage area at former site.

GAGE.--Acoustic-velocity meter. Elevation of gage is 1,625 ft above sea level, from topographic map. Prior to May 26, 1987, water-stage recorder at different datum at site 1,000 ft downstream. Auxiliary water-stage recorder on Slab Creek Dam records spill discharges which are combined with release discharges. See WSP 2131 for history of changes prior to Oct. 12, 1966.

REMARKS.--Flow regulated by several reservoirs. Since 1967 diversion from Slab Creek Dam to White Rock Powerplant (station 11443460) bypasses this station. Echo Lake Conduit (station 11434500) imports up to 1,900 acre-ft each year from Truckee River basin. Variable amounts of El Dorado Canal water, up to 40 ft^3/s May to October, and about 7 ft^3/s remainder of the year, diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Cosumnes River basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962, water is imported from the Upper Rubicon River basin by way of Robbs Peak Powerplant (station 11429300). See schematic diagram of South Fork American River basin.

COOPERATION.--Records were collected by Sacramento Municipal Utility District, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,300 ft^3/s, Jan. 2, 1997, from rating curve extended above 24,000 ft^3/s on basis of computation of peak flow over dam; minimum daily, 1.3 ft^3/s, Aug. 24, 1931.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	38	40	24400	1000	e38	e38	e40	e38	e37	e38	e29
2	39	38	40	48900	1120	e38	e38	e41	e38	e38	e38	e29
3	39	38	39	22200	2700	e38	e38	e41	e38	e38	e38	e29
4	39	38	39	10700	2190	e37	e38	e41	e322	e38	e29	e32
5	39	37	43	6680	2060	e38	e38	e40	1820	e38	e29	e37
6	39	36	39	3840	1950	e38	e38	e39	713	e38	e29	e37
7	39	37	38	2500	1700	e38	e38	e38	e38	e38	e29	e37
8	39	39	38	1770	1150	e38	e39	e38	e38	e37	e29	e37
9	39	39	37	1370	e100	e38	e41	e38	e38	e38	e29	e37
10	39	40	38	983	e38	e38	e41	e38	e37	e38	e29	e37
11	39	40	39	e582	e37	e38	e41	e38	e37	e38	e29	e37
12	39	39	3260	e471	e37	e38	e41	e38	e38	e38	e29	e37
13	39	38	3270	e84	e37	e38	e41	e38	e38	e38	e29	e37
14	39	38	1570	e38	e37	e38	e41	e38	e38	e38	e29	e37
15	39	38	788	e168	e37	e38	e40	e38	e38	e38	e29	e37
16	39	39	628	e38	e37	e38	e40	e38	e38	e38	e29	e37
17	39	39	254	e38	e37	e38	e41	e38	e38	e38	e29	e37
18	39	43	40	e38	e37	e38	e41	e38	e38	e38	e29	e37
19	39	39	37	e168	e37	e38	e41	e38	e38	e38	e29	e37
20	39	38	37	e38	e37	e38	e41	e38	e38	e38	e29	e37
21	39	38	38	e38	e37	e38	e41	e38	e38	e38	e29	e37
22	39	39	38	e361	e38	e38	e41	e38	e38	e38	e29	e37
23	39	39	38	2240	e38	e38	e40	e38	e38	e38	e29	e37
24	38	39	38	1120	e37	e38	e40	e38	e38	e37	e29	e37
25	38	38	37	3970	e37	e38	e40	e38	e38	e38	e29	e37
26	38	39	37	6940	e37	e38	e41	e38	e38	e38	e29	e37
27	38	39	147	3690	e38	e36	e41	e38	e38	e38	e29	e37
28	38	39	860	2320	e38	e38	e41	e38	e38	e38	e29	e37
29	38	39	742	2030	---	e38	e41	e38	e38	e38	e29	e37
30	39	39	5310	1400	---	e38	e41	e38	e38	e38	e29	e37
31	39	---	7980	803	---	e38	---	e38	---	e38	e29	---
TOTAL	1203	1159	25579	149918	14678	1175	1202	1192	3879	1175	926	1081
MEAN	38.8	38.6	825	4836	524	37.9	40.1	38.5	129	37.9	29.9	36.0
MAX	39	43	7980	48900	2700	38	41	41	1820	38	38	37
MIN	38	36	37	38	37	36	38	38	37	37	29	29
AC-FT	2390	2300	50740	297400	29110	2330	2380	2360	7690	2330	1840	2140
a	43690	44060	143300	188800	133300	143800	91760	101200	85990	50950	50890	68970

e Estimated.

a Diversion, in acre-feet, to White Rock Powerplant, provided by Sacramento Municipal Utility District.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.8	254	569	601	855	1171	2069	2681	1557	285	39.7	31.1
MAX	221	3951	4780	3422	2125	3367	4015	6382	4031	1310	168	150
(WY)	1952	1951	1951	1956	1927	1943	1952	1952	1952	1952	1951	1951
MIN	4.43	5.46	12.9	43.0	116	146	620	418	13.8	1.97	2.01	6.97
(WY)	1930	1930	1950	1929	1929	1924	1924	1934	1924	1931	1931	1955

SUMMARY STATISTICS	WATER YEARS 1923 - 1957	
ANNUAL MEAN	846	
HIGHEST ANNUAL MEAN	1760	1951
LOWEST ANNUAL MEAN	161	1924
HIGHEST DAILY MEAN	40000	Dec 23 1955
LOWEST DAILY MEAN	1.3	Aug 24 1931
ANNUAL SEVEN-DAY MINIMUM	1.5	Jul 29 1931
INSTANTANEOUS PEAK FLOW	49800	Dec 23 1955
INSTANTANEOUS PEAK STAGE	32.6	Dec 23 1955
ANNUAL RUNOFF (AC-FT)	612700	
10 PERCENT EXCEEDS	2520	
50 PERCENT EXCEEDS	230	
90 PERCENT EXCEEDS	13	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1957, COMBINED RIVER PLUS FLUME, BY WATER YEAR (WY)

MEAN	167	364	684	713	959	1259	2176	2815	1695	413	154	142
MAX	288	4051	4780	3422	2229	3490	4181	6552	4201	1474	324	227
(WY)	1948	1951	1951	1956	1927	1943	1952	1952	1952	1952	1952	1952
MIN	44.1	49.8	134	141	212	252	727	533	97.3	50.2	35.5	53.4
(WY)	1930	1930	1924	1929	1933	1924	1924	1934	1924	1931	1931	1924

SUMMARY STATISTICS	WATER YEARS 1923 - 1957	
ANNUAL MEAN	960	
HIGHEST ANNUAL MEAN	1860	1952
LOWEST ANNUAL MEAN	249	1924
HIGHEST DAILY MEAN	40000	Dec 23 1955
LOWEST DAILY MEAN	20	Aug 24 1931
ANNUAL SEVEN-DAY MINIMUM	30	Aug 19 1931
ANNUAL RUNOFF (AC-FT)	695700	
10 PERCENT EXCEEDS	2660	
50 PERCENT EXCEEDS	350	
90 PERCENT EXCEEDS	120	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

MEAN	48.4	91.0	141	365	213	116	135	345	266	83.0	34.4	34.4
MAX	453	1093	1112	4836	2709	1090	1402	2434	2619	936	45.1	48.2
(WY)	1968	1968	1984	1997	1986	1986	1971	1995	1995	1995	1980	1980
MIN	9.97	10.2	10.0	10.0	5.63	10.9	10.0	9.73	9.98	9.93	10.4	10.1
(WY)	1978	1978	1988	1988	1970	1992	1988	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1968 - 1997	
ANNUAL TOTAL	99589		203167			
ANNUAL MEAN	272		557		156	
HIGHEST ANNUAL MEAN					608	1995
LOWEST ANNUAL MEAN					13.3	1977
HIGHEST DAILY MEAN	12400	May 16	48900	Jan 2	48900	Jan 2 1997
LOWEST DAILY MEAN	36	Jan 1	29	Aug 4	2.4	Feb 12 1970
ANNUAL SEVEN-DAY MINIMUM	36	Jan 1	29	Aug 4	2.6	Feb 9 1970
INSTANTANEOUS PEAK FLOW			62300	Jan 2	62300	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	197500		403000		113000	
ANNUAL DIVERSION (AC-FT) a	1256000		1147000			
10 PERCENT EXCEEDS	265		725		74	
50 PERCENT EXCEEDS	37		38		36	
90 PERCENT EXCEEDS	36		37		11	

a Diversion, in acre-feet, to White Rock Powerplant, provided by Sacramento Municipal Utility District.

11444201 ROCK CREEK NEAR PLACERVILLE, CA

LOCATION.--Lat 38°47'39", long 120°46'28", in NE 1/4 NW 1/4 sec.20, T.11 N., R.11 E., El Dorado County, Hydrologic Unit 18020129, on left bank 500 ft downstream from Rock Creek Road and 4.0 mi north of Placerville.

DRAINAGE AREA.--73.0 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and broad-crested weir; water-stage recorder and sharp-crested weir. Elevation of gages is 1,305 ft above sea level, from topographic map.

REMARKS.--Records good. Flow at this station has two components which are combined for publication: flow over a broad-crested weir (station 11444200) and flow over a sharp-crested weir (station 11444260). Water is diverted upstream of weirs through a tunnel to Rock Creek Powerplant (station 11444280), returning to Rock Creek at its confluence with the South Fork American River. Extremes also represent combined flows. See schematic diagram of South Fork American River basin.

COOPERATION.--Records provided by Sithe Energies, Inc., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,690 ft^3/s, Jan. 2, 1997; no flow Sept. 29 to Oct. 3, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	21	60	2690	251	30	18	21	39	26	14	11
2	17	20	37	4660	199	34	19	21	39	24	14	11
3	17	20	14	1490	147	17	18	21	40	24	13	11
4	16	20	17	791	123	17	18	21	53	23	13	11
5	16	20	1260	545	148	17	17	20	45	22	13	10
6	16	21	285	411	45	17	18	21	41	19	12	9.9
7	15	21	109	319	99	17	18	21	37	19	12	9.8
8	15	21	21	229	137	19	20	21	33	19	11	9.9
9	15	21	21	194	89	17	18	21	32	18	11	9.7
10	15	22	397	149	51	17	19	20	30	18	12	9.7
11	16	22	455	120	18	20	24	20	30	18	13	10
12	16	21	1940	115	19	27	21	20	30	17	13	10
13	16	22	611	153	56	25	21	20	33	16	12	10
14	17	22	269	25	17	25	21	20	30	17	12	10
15	17	23	94	26	17	28	21	20	33	16	11	11
16	16	23	20	21	47	20	22	20	30	16	11	11
17	16	96	19	16	66	20	23	21	29	17	11	10
18	17	210	19	15	18	18	21	21	28	16	12	10
19	19	45	24	17	66	18	58	21	27	16	12	10
20	18	32	23	88	25	18	33	21	27	16	16	9.9
21	18	17	632	199	53	19	21	21	27	16	15	9.7
22	17	138	727	1900	17	19	21	21	26	15	13	9.5
23	17	86	462	1680	17	18	25	21	26	15	12	9.1
24	18	17	263	664	17	18	21	21	26	17	13	9.3
25	22	15	162	1400	21	18	21	21	25	15	12	9.5
26	20	19	379	2100	34	18	31	20	25	15	12	10
27	18	14	1170	1130	17	18	21	23	24	15	12	11
28	18	15	941	661	24	18	21	35	24	14	12	9.7
29	20	15	580	421	---	18	20	40	25	14	11	9.8
30	29	22	790	344	---	18	20	39	25	14	11	10
31	26	---	686	268	---	19	---	38	---	14	11	---
TOTAL	549	1081	12487	22841	1838	622	670	712	939	541	382	302.5
MEAN	17.7	36.0	403	737	65.6	20.1	22.3	23.0	31.3	17.5	12.3	10.1
MAX	29	210	1940	4660	251	34	58	40	53	26	16	11
MIN	15	14	14	15	17	17	17	20	24	14	11	9.1
AC-FT	1090	2140	24770	45310	3650	1230	1330	1410	1860	1070	758	600
a	0	811	2190	3200	6160	4160	2660	1640	0	0	0	0

a Discharge, in acre-feet, through Rock Creek Powerplant near Placerville, provided by Sithe Energies U.S.A., Inc.

11444201 ROCK CREEK NEAR PLACERVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.1	18.9	64.6	153	71.7	108	37.7	32.2	17.8	11.0	7.89	7.78
MAX	23.2	36.0	403	737	207	454	99.6	127	31.5	30.2	24.8	21.2
(WY)	1996	1997	1997	1997	1996	1995	1995	1995	1995	1996	1995	1995
MIN	4.60	6.15	9.97	11.4	12.5	16.4	16.6	11.3	6.35	3.18	1.97	1.86
(WY)	1993	1993	1990	1991	1991	1988	1994	1992	1992	1988	1994	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1987 - 1997	
ANNUAL TOTAL	34079		42964.5			
ANNUAL MEAN	93.1		118		45.2	
ANNUAL MEAN a	126		146		54.2	
HIGHEST ANNUAL MEAN					118	1997
LOWEST ANNUAL MEAN					14.3	1988
HIGHEST DAILY MEAN	1940	Dec 12	4660	Jan 2	4660	Jan 2 1997
LOWEST DAILY MEAN	14	Nov 27	9.1	Sep 23	.00	Sep 29 1987
ANNUAL SEVEN-DAY MINIMUM	15	Aug 30	9.6	Sep 19	.35	Sep 28 1987
INSTANTANEOUS PEAK FLOW			6690	Jan 2	6690	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	67600		85220		32770	
ANNUAL RUNOFF (AC-FT) a	91180		106000		39270	
10 PERCENT EXCEEDS	237		218		70	
50 PERCENT EXCEEDS	25		20		17	
90 PERCENT EXCEEDS	17		11		4.3	

a Adjusted for Rock Creek Powerplant near Placerville.

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA

LOCATION.--Lat 38°46'16", long 120°48'55", in NE 1/4 SW 1/4 sec.25, T.11 N., R.10 E., El Dorado County, Hydrologic Unit 18020129, on right bank 700 ft downstream from Chili Bar Dam, 0.5 mi upstream from Big Canyon, and 2.5 mi north of Placerville.

DRAINAGE AREA.--598 mi^2.

PERIOD OF RECORD.--August 1911 to July 1920 (monthly discharge only for some periods, published in WSP 1315-A), July 1964 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 925 ft above sea level, from topographic map. Aug. 11, 1911, to July 31, 1920, nonrecording gage 0.6 mi downstream at different datum.

REMARKS.--Flow regulated by Chili Bar Reservoir, capacity, 3,700 acre-ft, Chili Bar Powerplant, and other storage and powerplants (see station 11443500). See schematic diagrams of South Fork American River and lower Sacramento River basins.

COOPERATION.--Records provided by Pacific Gas & Electric Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,000 ft^3/s, Jan. 2, 1997, gage height, unknown, on basis of computations of flow over dam, maximum gage height, 17.4 ft, from floodmarks, datum then in use, Dec. 23, 1964; minimum daily, 0.2 ft^3/s, Nov. 12, 1964.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	784	783	1360	e35600	e5090	e2840	e2460	e1530	1810	796	847	1520
2	537	280	1150	e57100	e4980	e2460	e2060	e1330	2170	681	611	1470
3	542	519	1010	e28200	e4930	e3430	e1650	e1530	2470	1030	787	1410
4	898	556	955	e16000	e3900	e2080	e1480	e1800	2520	964	996	1580
5	597	977	3820	e11000	e4300	e2270	e1800	e2330	4650	772	1250	1000
6	824	424	3180	e8310	e4400	e2720	e1480	e1600	4130	1110	1080	1190
7	481	504	2670	e6750	e4160	e2570	e1670	e1640	3010	1200	1290	1180
8	1100	198	2210	e5720	e3850	e2820	e1550	e1680	2300	1370	908	1120
9	1360	212	2460	e5460	e4170	e2790	e1400	e1760	2080	985	653	1600
10	506	281	2250	e4970	e4030	e2640	e1400	e1990	2090	543	567	1540
11	798	276	e3320	e4790	e3960	e3000	e1100	e2100	1340	1040	475	1230
12	617	269	e1120	e4950	e3810	e2850	e1130	e2060	1120	726	1180	1360
13	546	272	e961	e4130	e3330	e2590	e1020	e1690	988	927	1120	1110
14	696	482	e3490	e3980	e3290	e2370	e1370	e2140	1020	1080	713	968
15	846	795	e2890	e3630	e2910	e2470	e1740	e2310	1740	1250	493	1560
16	866	772	e2720	e3950	e3290	e2560	e1450	e2180	1470	537	623	1570
17	826	907	e2810	e3990	e3400	e2790	e1540	e2330	2070	737	434	1440
18	744	2890	e3210	e3090	e3460	e2390	e1550	e2750	1220	1050	465	1130
19	470	2280	e3490	e3410	e3560	e2480	e2090	e1830	1680	948	465	1070
20	1080	1160	e2910	e3770	e3160	e2760	e2550	e1770	1350	843	711	1040
21	716	1140	e2880	e3950	e3090	e2420	e2190	e1800	1030	1290	963	971
22	565	947	e2330	e4140	e2840	e2520	e3560	1710	1060	579	892	958
23	917	1350	e2590	e9090	e3340	e2620	e3360	1490	1500	725	727	1250
24	806	1260	e3070	e6210	e2810	e2520	e1840	1620	1430	1250	1120	1360
25	644	795	e4280	e8920	e2780	e2900	e1570	1770	1170	804	1250	1140
26	762	589	e3580	e15400	e2380	e2690	e1830	1390	874	832	1560	752
27	557	879	e4430	e9780	e1690	e2860	e1850	1500	504	650	1370	1010
28	616	1140	e5070	e6050	e2500	e2880	e2190	1490	688	770	1470	1100
29	763	945	e9440	e6510	---	e2880	e2230	1960	690	1340	1270	1500
30	769	477	e12000	e5540	---	e2500	e1840	1260	765	577	1060	1680
31	709	---	e12800	e5460	---	e2470	---	1920	---	877	1030	---
TOTAL	22942	24359	110456	299850	99410	82140	54950	56260	50939	28283	28380	37809
MEAN	740	812	3563	9673	3550	2650	1832	1815	1698	912	915	1260
MAX	1360	2890	12800	57100	5090	3430	3560	2750	4650	1370	1560	1680
MIN	470	198	955	3090	1690	2080	1020	1260	504	537	434	752
AC-FT	45510	48320	219100	594800	197200	162900	109000	111600	101000	56100	56290	74990

e Estimated.

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	510	773	1323	1890	1756	1907	2019	2492	1931	1149	932	816
MAX	935	3806	5386	9673	6613	5561	5382	6159	6496	3648	1483	1401
(WY)	1984	1984	1965	1997	1986	1983	1982	1995	1983	1983	1983	1995
MIN	204	106	320	188	125	124	255	295	228	88.2	142	244
(WY)	1988	1978	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	763358		895778			
ANNUAL MEAN	2086		2454		1457	
HIGHEST ANNUAL MEAN					3275	1983
LOWEST ANNUAL MEAN					224	1977
HIGHEST DAILY MEAN	16900	May 16	57100	Jan 2	57100	Jan 2 1997
LOWEST DAILY MEAN	198	Nov 8	198	Nov 8	.20	Nov 12 1964
ANNUAL SEVEN-DAY MINIMUM	284	Nov 8	284	Nov 8	20	Feb 11 1977
INSTANTANEOUS PEAK FLOW			71000	Jan 2	71000	Jan 2 1997
INSTANTANEOUS PEAK STAGE					17.40	Dec 23 1964
ANNUAL RUNOFF (AC-FT)	1514000		1777000		1055000	
10 PERCENT EXCEEDS	3640		4130		3270	
50 PERCENT EXCEEDS	1250		1530		989	
90 PERCENT EXCEEDS	611		617		334	

11446200 FOLSOM LAKE NEAR FOLSOM, CA

LOCATION.--Lat 38°42'29", long 121°09'22", in NW 1/4 NE 1/4 sec.24, T.10 N., R.7 E., Sacramento County, Hydrologic Unit 18020128, near center of dam on American River, 0.7 mi downstream from South Fork American River, and 2.3 mi northeast of Folsom.

DRAINAGE AREA.--1,861 mi^2.

PERIOD OF RECORD.--February 1955 to current year. Prior to October 1959, published as Folsom Reservoir near Folsom.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by concrete gravity-type dam with rolled-earth-wing dams, auxiliary dams, and dikes, completed May 14, 1956; storage began Feb. 25, 1955. Total capacity, 1,010,300 acre-ft between elevations 205.5 ft, invert of lower tier of river outlets, and 466.0 ft gross pool elevation, all of which are available for release. Spillway design flood pool elevation, 475.4 ft, capacity, 1,120,200 acre-ft. Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of lower Sacramento River basin.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,024,400 acre-ft, June 15, 1963, elevation, 467.23 ft; minimum since storage pool first filled, 140,600 acre-ft, Nov. 20, 21, 1977, elevation, 347.57 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 864,400 acre-ft, Jan. 2, elevation, 455.65 ft; minimum, 343,500 acre-ft, Feb. 8, elevation, 394.42 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1992)

345	123,600	380	258,600	440	703,800
350	137,900	390	314,100	460	908,400
360	170,600	400	376,900	479	1,125,000
370	210,500	420	525,500		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	723900	632200	563700	666200	372600	400200	472300	555900	622900	611600	565000	546400
2	721600	628000	564400	864400	372000	398500	473700	558100	622400	608000	563800	547300
3	717900	624600	563500	837400	368700	399500	474900	559500	622400	604900	562400	548600
4	714700	621200	556800	789400	364800	400700	475100	561400	623600	602900	561600	549400
5	711600	618000	561500	710500	358900	400800	475900	564300	630700	600300	561000	550000
6	708100	614100	532800	637100	351900	402100	476100	566600	636700	597500	560900	550000
7	705500	611200	513500	596300	345600	403400	477400	569000	641700	595100	561000	550600
8	702400	607400	495700	556700	343500	405200	478400	571800	644700	595100	560400	551100
9	701100	603500	480000	512800	344200	407200	480100	573900	645900	594200	559500	552100
10	697800	600300	485100	469000	346200	409100	482000	577600	648100	593000	558000	553800
11	694000	597200	496100	437600	349400	411400	483500	580900	646600	591600	556200	554400
12	690600	593300	551000	416600	354600	413500	483900	584100	645400	590200	555200	555600
13	686900	589200	548800	396900	358600	415200	484600	587800	643200	588800	554500	557000
14	683100	586200	535600	378500	361900	416000	485200	591800	641800	587400	553700	556600
15	679900	583600	516800	364200	366500	417100	487000	595200	639200	586500	552300	558000
16	676800	581000	502500	356000	371400	419100	488000	598500	638300	585300	551200	560200
17	673600	580700	489900	351800	378100	422500	490800	603000	637700	582800	549300	562200
18	671200	592400	480100	349600	384800	424800	493500	608000	636700	581600	547500	564000
19	667900	595800	473000	349200	391100	428000	499400	611300	636200	581000	545800	565800
20	665700	596000	468100	353400	396100	431300	507200	613600	636600	578200	545400	565700
21	663600	593000	481400	356700	401000	434100	513000	615500	635900	577800	544800	564300
22	659700	591900	493900	376200	404800	436900	520100	615600	635700	576000	544800	563400
23	657600	594500	493900	395300	409300	440800	527700	616800	635300	574000	544300	563200
24	654800	593200	490500	370700	413200	444500	533200	618200	635500	573000	543900	562500
25	651800	589900	487200	368700	415700	448900	537000	619900	633200	572100	543900	561800
26	650000	585500	480000	428800	412500	451900	540000	620900	630800	572000	544600	560200
27	645900	580500	484800	438800	407700	456200	542900	621500	626900	570700	545100	558300
28	642800	575000	469000	422400	403900	460500	546900	621600	623400	569300	545300	556900
29	640500	569600	440900	400100	---	464300	550100	623200	618500	568400	545800	556200
30	638000	564900	455100	383700	---	466700	553000	623300	614800	567800	545900	556100
31	635400	---	496900	376200	---	469700	---	623400	---	566100	545900	---
MAX	723900	632200	564400	864400	415700	469700	553000	623400	648100	611600	565000	565800
MIN	635400	564900	440900	349200	343500	398500	472300	555900	614800	566100	543900	546400
a	432.41	424.41	416.14	399.51	403.61	412.64	423.01	431.09	430.13	424.55	422.17	423.38
b	-90900	-70500	-68000	-120700	+27700	+65800	+83300	+70400	-8600	-48700	-20200	+10200
c	2952	1161	895	390	785	2276	3181	4789	5496	6094	4813	4145

CAL YR 1996 b +179200
WTR YR 1997 b -170200

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by U..S. Bureau of Reclamation; not reviewed by U.S. Geological Survey.

11446500 AMERICAN RIVER AT FAIR OAKS, CA

LOCATION.--Lat 38°38'08", long 121°13'36", in SE 1/4 NE 1/4 sec.17, T.9 N., R.7 E., Sacramento County, Hydrologic Unit 18020111, on right bank 2,100 ft downstream from Nimbus Dam, 2.4 mi east of Fair Oaks, 8.1 mi downstream from South Fork, and at mile 22.2.

DRAINAGE AREA.--1,888 mi^2.

PERIOD OF RECORD.--November 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A.
WATER TEMPERATURE: Water years 1961-65.
CHEMICAL DATA: Water years 1960-62.

REVISED RECORDS.--WSP 1181: 1928(M). WSP 1515: 1907(M), 1910, 1931(M), 1943(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.53 ft above sea level. See WSP 2131 for history of changes prior to July 15, 1970.

REMARKS.--Records good. Flow regulated by Folsom Lake beginning Feb. 25, 1955 (station 11446200). Some minor regulation of high flows by temporary pondage during period of construction January 1953 to February 1955. Diurnal fluctuations from Folsom Powerplant re-regulated by Nimbus Reservoir, capacity, 2,800 acre-ft between normal operating elevations 118.5 and 125.0 ft and by Nimbus Powerplant. Many diversions upstream from station for irrigation, municipal, and domestic water supply. Diversions for San Juan Suburban Water District, city of Folsom, city of Roseville, and State of California are made at Folsom Dam. Diversion to Folsom South Canal from Nimbus Reservoir started in June 1973. Some inflow from Bear and Yuba River basins. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft^3/s, Nov. 21, 1950, gage height, 31.85 ft, site and datum then in use; minimum, 3.6 ft^3/s, Aug. 16, 1924. Maximum discharge since regulation by Folsom Lake in 1955, 134,000 ft^3/s, Feb. 19, 1986, gage height, 27.96 ft; minimum daily, 160 ft^3/s, Apr. 17, 1955.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2450	2970	4070	41000	e15000	6880	3240	2450	2990	3010	1940	1990
2	2460	2840	3120	106000	e12600	6030	3290	2450	3000	2770	1950	1750
3	2450	2840	3070	99300	e12300	5490	3180	2450	3040	2730	1950	1760
4	2460	2930	3600	62300	e12300	4680	3160	2440	2980	2740	1960	1740
5	2460	2850	5820	63100	e12300	4580	3050	2420	2590	2740	1930	1710
6	2460	2850	17600	53500	e12300	4510	2950	2400	2460	2740	1920	1750
7	2470	2840	24400	35400	e11500	4320	2940	2410	1990	2320	1920	1730
8	2520	2850	16900	31600	e9850	4230	2540	2350	1940	2180	1950	1730
9	2540	2850	14100	32200	e8540	4250	2450	2370	2140	2180	1990	1730
10	2580	2850	13400	31000	e7090	4240	2460	2370	2380	2170	2000	1690
11	2600	2930	11500	24400	e6090	4280	2500	2370	2860	2180	1980	1690
12	2740	2920	10300	19300	e5300	4190	2480	2380	2920	2180	1960	1680
13	2670	2850	18000	18100	e5410	4190	2490	2370	2970	2180	1980	1680
14	2610	2840	27300	e17100	e4860	4120	2480	2370	3000	2190	1990	1680
15	2620	2800	21400	e14800	e4600	4060	2460	2370	2990	2170	1980	981
16	2640	2820	19500	e11800	e4350	4050	2470	2380	3000	2180	1980	820
17	2670	2800	15800	e9150	e4100	4000	2470	2020	3000	2180	1980	713
18	2740	2820	13500	e7580	e4000	3910	2450	1910	2550	2180	1960	629
19	2800	2830	11600	e6600	e4000	3890	2420	1920	2400	2190	1960	717
20	2470	4080	10000	e7590	e4000	3740	2430	2330	2040	2080	1970	1690
21	2610	4140	8670	e7690	e4000	3680	2420	2410	1930	2080	1950	1700
22	2920	4130	8060	e21000	e4000	3650	2420	2890	1940	2080	1940	1700
23	2950	4910	10100	e32000	4040	3640	2430	2940	1940	2080	1940	1700
24	2930	4620	10900	e32000	4020	3550	2430	2550	1760	2080	1960	1700
25	2950	4600	9440	e32000	4770	3720	2430	2450	2860	1940	1960	1380
26	2840	4600	8290	e32000	6850	3590	2430	2450	2980	1940	1960	1700
27	2830	4600	12100	e32000	6890	3510	2430	2430	2980	1950	1970	1700
28	2930	4590	24800	e32000	7060	3640	2430	2420	3000	1940	1960	1710
29	2860	4980	31100	e30300	---	3380	2440	2500	3000	1940	1960	1710
30	3060	4950	31800	e24200	---	3270	2440	2410	3000	1940	1970	1720
31	3060	---	32200	e18200	---	3290	---	2880	---	1950	1980	---
TOTAL	83350	104480	452440	985210	202120	128560	78210	74860	78630	69210	60800	46580
MEAN	2689	3483	14590	31780	7219	4147	2607	2415	2621	2233	1961	1553
MAX	3060	4980	32200	106000	15000	6880	3290	2940	3040	3010	2000	1990
MIN	2450	2800	3070	6600	4000	3270	2420	1910	1760	1940	1920	629
AC-FT	165300	207200	897400	1954000	400900	255000	155100	148500	156000	137300	120600	92390

e Estimated.

11446500 AMERICAN RIVER AT FAIR OAKS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	455	1327	2504	4483	5831	6647	8258	8656	5149	1293	342	269
MAX	1430	16450	17360	24290	15540	24710	15640	18200	17720	6336	1497	813
(WY)	1905	1951	1951	1909	1909	1907	1907	1952	1911	1906	1907	1907
MIN	100	85.0	254	284	650	879	1998	1488	206	26.8	15.8	24.4
(WY)	1930	1930	1906	1918	1920	1924	1924	1924	1924	1924	1924	1924

SUMMARY STATISTICS	WATER YEARS 1905 - 1954	
ANNUAL MEAN	3752	
HIGHEST ANNUAL MEAN	7896	1907
LOWEST ANNUAL MEAN	731	1924
HIGHEST DAILY MEAN	132000	Nov 21 1950
LOWEST DAILY MEAN	4.6	Jul 29 1924
ANNUAL SEVEN-DAY MINIMUM	4.8	Jul 29 1924
INSTANTANEOUS PEAK FLOW	180000	Nov 21 1950
INSTANTANEOUS PEAK STAGE	31.85	Nov 21 1950
ANNUAL RUNOFF (AC-FT)	2718000	
10 PERCENT EXCEEDS	9980	
50 PERCENT EXCEEDS	1420	
90 PERCENT EXCEEDS	216	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1910	2424	4032	5575	5483	5170	4216	4244	3729	3637	2766	2250
MAX	4102	11700	19360	31780	31140	19340	17760	14270	9828	10710	4500	3924
(WY)	1970	1984	1965	1997	1986	1983	1982	1995	1983	1995	1983	1983
MIN	284	272	252	350	408	273	258	520	1135	869	855	602
(WY)	1978	1978	1978	1962	1991	1977	1977	1977	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1956 - 1997	
ANNUAL TOTAL	2120280		2364450			
ANNUAL MEAN	5793		6478		3781	
HIGHEST ANNUAL MEAN					8854	1983
LOWEST ANNUAL MEAN					778	1977
HIGHEST DAILY MEAN	43700	May 17	106000	Jan 2	131000	Feb 19 1986
LOWEST DAILY MEAN	940	Sep 25	629	Sep 18	215	Apr 20 1977
ANNUAL SEVEN-DAY MINIMUM	1840	Sep 19	1030	Sep 13	237	Jan 7 1978
INSTANTANEOUS PEAK FLOW			117000	Jan 2	134000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			26.40	Jan 2	27.96	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	4206000		4690000		2739000	
10 PERCENT EXCEEDS	13000		15300		7600	
50 PERCENT EXCEEDS	4090		2840		2500	
90 PERCENT EXCEEDS	2060		1940		902	

11447000 AMERICAN RIVER AT SACRAMENTO, CA

LOCATION.--Lat 38°34'05", long 121°25'20", in Rio de Americanos Grant, Sacramento County, Hydrologic Unit 18020111, at Guy A. West Bridge at California State University, Sacramento, and 1,200 ft downstream from Howe Avenue Bridge, and 4.1 mi southeast of State Capitol.

DRAINAGE AREA.--1,936 mi^2.

PERIOD OF RECORD.--Water years 1978, 1996 to current year.
CHEMICAL DATA.--October 1977 to September 1978, February 1996 to current year.
SEDIMENT DATA.--February 1996 to current year.

REMARKS.--Discharge values were obtained from the California Department of Water Resources at their H Street gaging-station location since September 1959. This site was relocated 2,000 ft downstream of the H Street Bridge in October 1977 through September 1978. The site was reestablished and relocated as described in the current location description in February 1996.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
11...	0930	2550	45	7.3	17.5	763	9.0	94	4.9	1.5
NOV										
12...	1020	2890	48	7.3	14.5	767	10.2	99	5.0	1.4
DEC										
06...	1100	9990	47	7.7	13.0	762	11.2	106	5.3	1.6
JAN										
10...	1000	32200	45	7.6	8.5	764	12.8	109	5.0	1.6
FEB										
05...	0930	--	56	7.5	8.5	764	10.6	90	4.9	2.2
MAR										
24...	1100	3590	52	7.5	10.5	762	--	--	5.2	1.8
APR										
25...	0920	2410	54	7.6	12.5	760	10.2	96	5.8	1.7
MAY										
15...	1000	--	51	7.6	14.5	764	10.0	98	5.3	1.6
JUN										
12...	0920	2860	49	7.4	17.0	760	9.2	96	5.1	1.6
JUL										
25...	1330	1880	47	7.5	19.0	760	8.6	93	4.5	1.3
AUG										
19...	0930	1970	48	7.2	19.5	760	8.6	94	4.7	1.4
SEP										
15...	1230	909	47	7.3	19.0	766	9.2	99	5.0	1.4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
11...	1.8	17	.60	18	1.4	1.3	<.10	9.9	48	34
NOV										
12...	2.0	19	.60	21	1.6	1.4	<.10	9.5	24	35
DEC										
06...	2.0	17	.70	20	1.6	1.7	<.10	9.4	34	35
JAN										
10...	1.4	13	1.0	20	1.7	.90	<.10	9.7	40	34
FEB										
05...	2.1	17	.80	21	2.1	1.4	<.10	12	44	41
MAR										
24...	2.0	17	.74	19	2.1	1.3	<.10	9.9	41	37
APR										
25...	2.1	17	.73	22	2.2	1.5	<.10	11	45	39
MAY										
15...	2.0	18	.74	20	1.9	1.4	<.10	11	37	37
JUN										
12...	2.0	17	.69	18	1.7	1.3	<.10	11	35	37
JUL										
25...	1.8	18	.73	16	1.5	1.4	<.10	9.4	40	33
AUG										
19...	1.9	19	.74	17	1.5	1.4	<.10	9.8	32	34
SEP										
15...	1.9	18	.79	16	1.6	1.4	<.10	9.8	35	34

11447000 AMERICAN RIVER AT SACRAMENTO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
11...	.07	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	7.0
NOV										
12...	.03	.020	.080	.070	<.20	.20	<.010	<.010	.010	9.0
DEC										
06...	.05	.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	7.0
JAN										
10...	.05	.010	.110	<.015	<.20	<.20	.090	<.010	<.010	47
FEB										
05...	.06	.020	.200	<.015	<.20	<.20	.040	<.010	<.010	12
MAR										
24...	.06	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	9.1
APR										
25...	.06	<.010	<.050	<.015	<.20	<.20	.017	<.010	<.010	9.4
MAY										
15...	.05	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	7.2
JUN										
12...	.05	<.010	.094	<.015	<.20	<.20	<.010	<.010	<.010	7.5
JUL										
25...	.05	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	7.0
AUG										
19...	.04	<.010	<.050	.022	<.20	<.20	.017	<.010	<.010	5.7
SEP										
15...	.05	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	7.6

DATE	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT										
11...	<1.0	<1	12	<1.0	<1.0	<1.0	<1.0	<1.0	7.0	<1.0
NOV										
12...	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0	<1.0	10	<1.0
DEC										
06...	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0	<1.0	8.0	<1.0
JAN										
10...	<1.0	<1	8.0	<1.0	<1.0	<1.0	<1.0	<1.0	48	<1.0
FEB										
05...	<1.0	<1	8.0	<1.0	<1.0	<1.0	<1.0	2.0	12	<1.0
MAR										
24...	<1.0	<1	10	<1.0	<1.0	<1.0	<1.0	<1.0	8.8	<1.0
APR										
25...	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0	<1.0	7.9	<1.0
MAY										
15...	<1.0	<1	9.6	<1.0	<1.0	<1.0	<1.0	<1.0	27	<1.0
JUN										
12...	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0	2.2	6.7	<1.0
JUL										
25...	<1.0	<1	9.7	<1.0	<1.0	<1.0	<1.0	1.2	3.7	<1.0
AUG										
19...	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0	2.8	5.1	<1.0
SEP										
15...	<1.0	<1	11	<1.0	<1.0	<1.0	<1.0	<1.0	3.5	<1.0

11447000 AMERICAN RIVER AT SACRAMENTO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT									
11...	2.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.6	.30
NOV									
12...	4.0	<1.0	<1.0	<1	<1.0	1.0	<1.0	1.9	.20
DEC									
06...	11	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.5	.50
JAN									
10...	5.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.8	1.0
FEB									
05...	8.0	<1.0	1.0	<1	<1.0	2.0	<1.0	1.6	.50
MAR									
24...	2.7	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.2	.20
APR									
25...	4.6	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.3	--
MAY									
15...	3.3	<1.0	<1.0	<1	<1.0	1.8	<1.0	1.1	.20
JUN									
12...	2.0	<1.0	<1.0	<1	<1.0	2.2	<1.0	1.5	.10
JUL									
25...	1.8	<1.0	<1.0	<1	<1.0	1.2	<1.0	1.3	.20
AUG									
19...	1.7	<1.0	1.3	<1	<1.0	2.8	<1.0	1.3	.20
SEP									
15...	3.0	<1.0	<1.0	<1	<1.0	11	<1.0	1.3	.90

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT					
11...N	0930	2550	17.5	4	28
NOV					
12...N	1020	2890	14.5	8	62
DEC					
06...N	1100	9990	13.0	59	1590
JAN					
10...N	1000	32200	8.5	116	10100
FEB					
05...N	0930	--	8.5	38	--
MAR					
24...N	1100	3590	10.5	7	68
APR					
25...N	0920	2410	12.5	4	26
MAY					
15...N	1000	--	14.5	--	--
JUN					
12...N	0920	2860	17.0	6	46
JUL					
25...N	1330	1880	19.0	3	15
AUG					
19...N	0930	1970	19.5	2	11
SEP					
15...N	1230	909	19.0	3	7.4

11447293 DRY CREEK AT VERNON STREET BRIDGE AT ROSEVILLE, CA

LOCATION.--Lat 38°44'04", long 121°17'55", NW 1/4, SW 1/4 sec.11, T.10 N, R6 E, in Placer County, Hydrologic Unit 18021111, on right bank upstream side of bridge and 0.5 mi below confluence of Cirby Creek, at Roseville, Ca.

DRAINAGE AREA.--80.08 mi^2.

PERIOD OF RECORD.--October 1996 to September 1997.

GAGE.--Water-stage recorder. Datum of gage is 99.86 ft above sea level (levels by City of Roseville).

REMARKS.--Records good. Records computed only for gage heights above the bottom of the stilling well (11.55 ft and above), as the well sits above the intakes. Low summer flow sustained by groundwater seepage and residential and industrial waste water.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,950 ft^3/s, Jan. 22, 1997, gage height, 24.39 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 27	0300	2,040	16.37	Jan. 22	2315	7,950	24.39
Jan. 01	2230	3,800	19.72	Jan. 26	1045	7,250	23.61

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	2400	---	---	---	---	---	---	---	---
2	---	---	---	2440	---	---	---	---	---	---	---	---
3	---	---	---	589	---	---	---	---	---	---	---	---
4	---	---	---	175	---	---	---	---	---	---	---	---
5	---	---	325	111	---	---	---	---	---	---	---	---
6	---	---	---	88	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	441	---	---	---	---	---	---	---	---	---
11	---	---	124	---	---	---	---	---	---	---	---	---
12	---	---	780	---	---	---	---	---	---	---	---	---
13	---	---	296	---	---	---	---	---	---	---	---	---
14	---	---	82	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	120	---	---	---	---	---	---	---	---	---	---
18	---	202	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	683	140	---	---	---	---	---	---	---	---
22	---	191	769	2720	---	---	---	---	---	---	---	---
23	---	---	193	2330	---	---	---	---	---	---	---	---
24	---	---	70	529	---	---	---	---	---	---	---	---
25	---	---	---	1580	---	---	---	---	---	---	---	---
26	---	---	---	3550	---	---	---	---	---	---	---	---
27	---	---	1130	647	---	---	---	---	---	---	---	---
28	---	---	252	440	---	---	---	---	---	---	---	---
29	---	---	279	---	---	---	---	---	---	---	---	---
30	101	---	513	---	---	---	---	---	---	---	---	---
31	---	---	367	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

11447330 MAGPIE CREEK NEAR DEL PASO HEIGHTS, CA

LOCATION.--Lat 38°39'24", long 121°22'53", in Del Paso Grant, Sacramento County, Hydrologic Unit 18021111, on right bank 15 ft upstream from culvert on Watt Avenue, near intersection with Roseville Road, and 1 mi east of Del Paso Heights.

DRAINAGE AREA.--2.03 mi^2.

PERIOD OF RECORD.--October 1995 to September 1997 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 70 ft above sea level, from topographic map.

REMARKS.--Records good except for discharges below 1 ft^3/s, and estimated daily discharges, which are poor. Low summer flow sustained by residential and industrial waste water.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 560 ft^3/s, Jan. 22, 1997, gage height, 6.11 ft; minimum daily, 0.06 ft^3/s, Mar. 2, 7-9, 16, 1996.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 400 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 22	1800	560	6.11

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	.14	1.7	81	e.12	e.12	e.30	.15	e.90	.47	.98	.53
2	.55	.16	.15	17	e.12	e1.0	e.30	.16	e.93	.60	.93	.66
3	.44	.13	.16	2.2	e.12	e.15	e.30	.18	e.90	.81	1.1	.36
4	.33	.14	3.9	.24	e.30	e.15	e.30	.20	e1.0	.90	.98	.39
5	.35	.23	9.3	.18	e.12	e.15	e.30	.19	e.90	1.0	1.4	.38
6	.36	.13	.22	.17	e.12	.15	e.30	.56	e.80	.69	1.7	.69
7	.31	.13	.24	.14	e.12	.19	e.30	.15	e.70	.75	1.9	.58
8	.25	.12	.21	.13	e.12	.22	.30	.27	e.70	.76	2.0	.46
9	.35	.16	7.5	.10	e.12	.30	.34	.19	e.70	1.1	1.6	.53
10	.31	.15	21	.11	e.12	.29	.44	.23	e.60	.73	1.3	.36
11	.26	.15	6.5	.12	e.12	.48	e.13	.24	e.60	1.0	1.7	.33
12	.20	.18	11	2.1	e.12	.55	e.14	.25	.63	1.1	1.3	.39
13	.20	.23	1.4	.13	e.12	.40	e.14	.37	7.4	1.4	.79	.34
14	.18	.39	.20	.11	e.12	e.40	e.14	.32	.40	1.5	1.2	2.4
15	.17	.39	.16	.20	e.12	e.40	e.15	.29	.36	.98	.76	1.4
16	.32	2.1	.14	.12	e.12	e.50	e.25	.27	.31	1.1	.59	1.4
17	.24	24	.22	.11	e.12	e4.0	e.30	.26	.41	1.3	.54	.56
18	1.7	4.1	.15	.12	e.12	e.50	e.27	.25	.62	1.2	.59	.44
19	.19	4.1	.15	.12	e.12	e.40	e.25	.29	.60	1.2	.48	.35
20	.16	.17	.26	12	e.12	e.40	e.23	.23	.46	1.2	3.8	.42
21	.16	1.5	37	6.1	e.12	e.30	e.21	.21	.46	1.3	.43	.44
22	.16	14	18	128	e.12	e.30	.46	.22	.49	1.3	.85	.39
23	.18	.22	.51	7.3	e.12	e.30	.88	e14	.50	1.4	.47	.58
24	.16	.21	.12	e6.1	e.12	e.30	.15	2.0	.56	1.5	.35	.52
25	.15	.23	.10	e32	e.12	e.30	.13	1.8	.81	1.5	.25	.49
26	.17	.11	26	e64	e.12	e.30	.16	1.4	.70	1.2	.24	.44
27	.14	.11	15	e10	e.12	e.30	.23	1.3	.58	1.1	.31	.48
28	.23	.12	.95	e6.1	e.12	e.30	.19	e1.2	.38	1.5	.47	.33
29	20	.13	10	e.15	---	e.30	.14	e.99	.41	1.1	.58	.30
30	2.5	.20	13	e.15	---	e.30	.17	e.96	.34	1.5	.52	.37
31	.16	---	6.0	e.15	---	e.30	---	e.93	---	1.5	.61	---
TOTAL	31.33	54.13	191.24	376.45	3.54	14.05	7.90	30.06	25.15	34.69	30.72	17.31
MEAN	1.01	1.80	6.17	12.1	.13	.45	.26	.97	.84	1.12	.99	.58
MAX	20	24	37	128	.30	4.0	.88	14	7.4	1.5	3.8	2.4
MIN	.14	.11	.10	.10	.12	.12	.13	.15	.31	.47	.24	.30
AC-FT	62	107	379	747	7.0	28	16	60	50	69	61	34

e Estimated.

11447330 MAGPIE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.65	1.01	7.67	7.96	4.85	1.00	1.29	1.91	.74	.91	.87	.49
MAX	1.01	1.80	9.17	12.1	9.41	1.54	2.33	2.85	.84	1.12	.99	.58
(WY)	1997	1997	1996	1997	1996	1996	1996	1996	1997	1997	1997	1997
MIN	.29	.22	6.17	3.78	.13	.45	.26	.97	.65	.70	.75	.41
(WY)	1996	1996	1997	1996	1997	1997	1997	1997	1996	1996	1996	1996

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1996 - 1997	
ANNUAL TOTAL	949.34		816.57			
ANNUAL MEAN	2.59		2.24		2.45	
HIGHEST ANNUAL MEAN					2.66	1996
LOWEST ANNUAL MEAN					2.24	1997
HIGHEST DAILY MEAN	100	Feb 4	128	Jan 22	128	Jan 22 1997
LOWEST DAILY MEAN	.06	Mar 2	.10	Dec 25	.06	Mar 2 1996
ANNUAL SEVEN-DAY MINIMUM	.08	Mar 19	.12	Feb 5	.08	Mar 19 1996
INSTANTANEOUS PEAK FLOW			560	Jan 22	560	Jan 22 1997
INSTANTANEOUS PEAK STAGE			6.11	Jan 22	6.11	Jan 22 1997
ANNUAL RUNOFF (AC-FT)	1880		1620		1770	
10 PERCENT EXCEEDS	4.1		2.1		2.0	
50 PERCENT EXCEEDS	.39		.35		.36	
90 PERCENT EXCEEDS	.11		.12		.12	

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA

LOCATION.--Lat 38°38'01", long 121°22'54", in Del Paso Grant, Sacramento County, Hydrologic Unit 18021111, on right bank 500 ft upstream from bridge on Watt Avenue and at intersection with Longview Drive, and 1.3 mi east of Del Paso Heights.

DRAINAGE AREA.--31.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1963 to June 1978, December 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 50 ft above sea level, from topographic map. Prior to December 1995, at site 0.3 mi upstream at different datum.

REMARKS.--Records good except for discharges below 1 ft^3/s and estimated daily discharges, which are poor. Low summer flow sustained by residential and industrial waste water.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,270 ft^3/s, Jan. 22, 1997 gage height, 15.60 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 500 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0700	610	10.68	Jan. 01	1315	1,510	13.41
Dec. 21	2330	737	11.15	Jan. 22	2145	2,270	15.60
Dec. 27	0415	992	11.96	Jan. 26	0830	2,080	15.10

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	1.4	21	945	4.2	.76	.95	1.3	1.3	1.2	1.6	1.0
2	.63	.69	6.9	596	3.5	25	.92	1.2	1.5	1.0	1.5	1.0
3	.46	.48	4.0	74	2.7	3.0	.93	1.5	1.7	1.1	1.6	1.0
4	.74	.47	9.4	20	5.4	1.1	1.3	1.4	8.9	1.1	1.6	1.0
5	.67	.39	208	14	2.5	.64	1.5	1.3	2.1	1.1	1.5	.94
6	.76	.41	16	11	1.8	.72	1.6	1.3	1.5	1.1	1.5	.92
7	.86	.25	8.5	9.3	1.6	.71	2.0	1.2	2.0	1.1	1.8	.82
8	.76	.01	5.9	8.4	12	.84	2.2	1.3	1.4	1.1	1.8	.83
9	.86	.00	73	7.5	2.2	1.0	1.4	1.6	1.9	1.2	1.6	.73
10	.46	.00	259	6.9	1.4	1.1	2.1	1.7	2.0	.97	1.7	.72
11	.43	.00	32	6.7	1.4	1.1	1.9	1.7	1.4	1.0	1.7	.75
12	.62	.00	283	28	1.0	.99	1.3	1.7	1.1	1.3	1.9	.89
13	1.0	.00	66	13	.90	.89	1.6	1.5	58	1.5	1.5	.88
14	.77	.00	14	7.4	.81	.99	1.3	1.3	2.9	1.2	e1.5	1.0
15	.87	.00	8.6	7.8	.75	1.4	1.6	1.8	1.7	.99	e1.5	6.4
16	.50	1.2	7.0	7.3	.72	9.3	1.3	1.4	1.4	1.0	e1.4	1.8
17	.31	119	5.5	6.2	11	54	1.4	1.5	1.7	.99	e1.4	1.0
18	8.6	142	4.7	6.1	1.9	2.3	6.4	1.5	1.7	1.1	e1.4	1.0
19	3.5	63	4.3	5.3	.95	1.2	52	1.3	2.2	1.2	e1.4	.96
20	.73	31	3.7	200	.74	e1.1	3.0	1.4	1.5	1.1	25	1.0
21	.45	15	392	129	.93	e1.1	1.4	1.2	1.4	1.2	3.7	.62
22	.52	178	360	975	.81	e.99	1.2	1.2	1.2	1.4	2.0	.98
23	.31	25	39	645	.96	.92	17	39	1.2	1.2	1.5	.92
24	.23	8.8	14	56	2.8	1.3	1.5	6.9	1.2	1.4	1.4	.89
25	.20	7.1	9.5	627	1.2	1.0	.85	2.8	1.3	1.8	1.5	1.2
26	.50	5.0	123	1090	.92	1.1	1.1	1.9	1.3	1.8	1.3	.84
27	.64	3.8	500	57	1.1	1.1	1.4	1.8	1.3	1.7	1.2	.80
28	.51	3.7	62	27	.91	1.0	1.5	1.7	1.2	1.7	1.2	.68
29	94	3.4	95	11	---	1.0	1.5	1.9	1.2	1.8	1.1	.69
30	88	2.8	118	6.9	---	1.5	1.2	1.5	1.3	1.4	1.1	.83
31	3.7	---	112	4.9	---	1.0	---	1.4	---	1.5	1.3	---
TOTAL	213.37	612.90	2865.0	5608.7	67.10	120.15	115.35	90.2	110.5	39.25	72.2	33.09
MEAN	6.88	20.4	92.4	181	2.40	3.88	3.85	2.91	3.68	1.27	2.33	1.10
MAX	94	178	500	1090	12	54	52	39	58	1.8	25	6.4
MIN	.20	.00	3.7	4.9	.72	.64	.85	1.2	1.1	.97	1.1	.62
AC-FT	423	1220	5680	11120	133	238	229	179	219	78	143	66

e Estimated.

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.60	22.8	35.9	68.9	37.2	18.9	11.6	4.63	3.34	3.59	3.17	3.45
MAX	13.7	76.0	92.4	227	142	64.0	34.7	27.3	5.90	10.0	5.53	14.0
(WY)	1976	1974	1997	1969	1969	1975	1996	1996	1975	1974	1975	1965
MIN	.65	2.67	.51	3.15	.93	.85	.12	.64	.000	.000	.001	1.02
(WY)	1966	1976	1964	1976	1971	1966	1977	1965	1977	1977	1977	1996

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1963 - 1997	
ANNUAL TOTAL	10987.34		9947.81			
ANNUAL MEAN	30.0		27.3		16.8	
HIGHEST ANNUAL MEAN					37.8	1969
LOWEST ANNUAL MEAN					2.64	1977
HIGHEST DAILY MEAN	1100	Feb 4	1090	Jan 26	1280	Jan 13 1969
LOWEST DAILY MEAN	.00	Jan 8	.00	Nov 9	.00	Oct 27 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 9	.00	Nov 9	.00	Dec 31 1963
INSTANTANEOUS PEAK FLOW			2270	Jan 22	2270	Jan 22 1997
INSTANTANEOUS PEAK STAGE			15.60	Jan 22	15.60	Jan 22 1997
ANNUAL RUNOFF (AC-FT)	21790		19730		12180	
10 PERCENT EXCEEDS	62		31		22	
50 PERCENT EXCEEDS	2.1		1.4		2.5	
90 PERCENT EXCEEDS	.64		.72		.40	

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1996 to current year.
CHEMICAL DATA: Water years 1996 to current year.
SPECIFIC CONDUCTANCE: July 1997 to September 1997.
WATER TEMPERATURE: July 1997 to September 1997.
SEDIMENT DATA: Water years 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1997 to September 1997.
WATER TEMPERATURE: July 1997 to September 1997.

INSTRUMENTATION.--Water-quality monitor since July 1997.

REMARKS.--Interruptions in record were due to malfunction of the sensing instrument. National Water-Quality Assessment (NAWQA) Program, urban runoff study. Variability of chemical concentrations result from fluctuations in discharge and storm-drain runoff.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 412 microsiemens, July 13; minimum recorded, 206 microsiemens, Sept. 15.
WATER TEMPERATURE: Maximum recorded, 26.5°C, July 8, 9, Aug. 7, 8; minimum recorded, 18.5°C, Sept. 17, 21.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)
OCT												
17...	1440	.22	308	7.2	14.0	764	7.5	73	21	9.2	24	35
29...	1230	35	211	7.8	12.5	--	--	--	--	--	--	--
29...	1910	288	104	7.7	13.0	--	--	--	--	--	--	--
30...	1020	44	106	7.1	12.5	--	--	--	--	--	--	--
NOV												
26...	1000	5.5	184	7.3	11.5	767	5.8	53	17	4.6	10	24
DEC												
10...	1300	498	68	7.2	12.0	754	8.8	83	6.4	1.7	3.4	22
JAN												
13...	1100	12	189	7.4	5.5	752	10.2	82	18	4.6	11	26
29...	0930	12	252	7.8	11.5	768	9.3	85	23	6.1	15	28
FEB												
07...	1030	1.4	379	7.8	9.0	767	9.2	79	34	10	26	30
21...	0930	1.1	313	7.5	10.5	769	7.8	69	26	7.0	23	34
MAR												
07...	0940	.65	220	7.4	9.5	763	8.2	72	19	5.4	15	31
21...	1000	1.3	162	7.3	15.5	--	6.5	--	15	4.4	9.9	27
APR												
10...	1030	1.3	353	7.5	13.0	761	6.6	62	28	9.2	26	33
23...	1200	17	196	7.3	17.0	762	8.0	83	15	4.1	13	32
MAY												
12...	0900	1.5	363	7.6	20.0	759	5.8	64	28	9.4	29	35
23...	1310	117	205	7.3	--	760	--	--	15	5.0	14	32
27...	1020	1.8	227	7.3	20.0	766	5.2	57	20	6.4	14	27
JUN												
13...	1020	60	98	7.0	19.0	756	6.6	72	8.3	2.2	5.2	25
26...	0920	1.1	290	7.6	22.0	759	6.4	73	--	--	--	--
JUL												
11...	0900	.94	290	7.5	23.0	758	5.6	66	25	8.7	20	30
21...	0940	1.2	319	7.5	22.5	759	--	--	23	8.8	24	34
AUG												
08...	0910	1.8	300	7.5	25.5	757	5.8	71	24	8.8	20	31
29...	1400	1.0	321	7.6	24.0	759	6.2	74	23	9.0	22	32
SEP												
05...	1000	.95	286	7.5	23.0	758	5.3	62	22	8.0	21	33
26...	1115	.62	290	7.6	20.5	762	8.4	94	23	8.4	19	30

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT												
17...	5.0	54	9.4	29	.20	45	222	204	.30	.030	.450	.020
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
26...	4.5	53	9.6	15	.10	16	139	110	.19	.030	.400	.050
DEC												
10...	2.8	21	3.6	3.6	<.10	6.5	58	41	.08	--	--	--
JAN												
13...	2.5	50	13	12	<.10	13	125	113	.17	.090	1.70	.340
29...	3.7	66	18	15	<.10	21	174	155	.24	.027	1.57	.042
FEB												
07...	3.0	110	24	30	<.10	29	233	229	.32	.030	1.50	.020
21...	2.9	71	17	28	.10	17	186	172	.25	.060	1.10	.060
MAR												
07...	3.4	62	14	16	.10	13	147	134	.20	.020	.790	.050
21...	3.0	46	8.4	15	<.10	12	117	101	.16	.040	.700	.110
APR												
10...	5.4	98	14	37	.10	33	237	221	.32	.030	.480	.100
23...	3.5	45	11	17	.10	17	140	115	.19	.074	.786	.368
MAY												
12...	5.1	96	12	44	.21	42	231	233	.31	.060	.622	.156
23...	4.5	46	8.4	17	.14	21	150	123	.20	.042	1.02	.841
27...	4.3	65	7.9	17	.13	31	164	145	.22	.045	.466	.156
JUN												
13...	3.0	22	6.5	5.5	.13	7.8	84	57	.11	.053	.629	.414
26...	--	82	--	--	--	--	--	--	--	--	--	--
JUL												
11...	4.5	90	9.7	28	.15	38	220	190	.30	--	--	--
21...	4.4	87	11	33	.28	39	231	201	.31	.019	.373	.058
AUG												
08...	4.1	88	7.5	29	.17	38	207	188	.28	<.010	.123	.060
29...	5.0	83	13	33	.18	42	237	204	.32	.063	.784	<.015
SEP												
05...	4.4	81	9.2	27	.17	38	207	185	.28	.023	.350	.071
26...	4.8	80	10	27	.18	39	209	187	.28	.026	.468	.106

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)
OCT												
17...	.60	.50	.240	.170	.170	7.0	<1.0	4	82	<1.0	<1.0	1.0
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
26...	.90	.70	.180	.090	.090	7.0	<1.0	2	68	<1.0	<1.0	<1.0
DEC												
10...	1.0	--	.380	--	--	13	<1.0	2	28	<1.0	<1.0	<1.0
JAN												
13...	1.0	.90	.160	.080	.080	7.0	<1.0	1	54	<1.0	<1.0	1.0
29...	2.9	.68	1.16	.097	.096	--	--	--	--	--	--	--
FEB												
07...	.50	.40	.110	.100	.060	6.0	<1.0	<1	94	<1.0	<1.0	1.0
21...	1.1	.70	.130	.080	.050	--	--	--	--	--	--	--
MAR												
07...	1.0	.70	.140	.050	.070	6.0	<1.0	1	68	<1.0	<1.0	2.0
21...	.80	.60	.110	.110	.100	--	--	--	--	--	--	--
APR												
10...	.80	.60	.300	.200	.210	5.0	<1.0	2	84	<1.0	<1.0	1.0
23...	1.9	1.3	.403	.188	.188	--	--	--	--	--	--	--
MAY												
12...	.84	.76	.323	.253	.268	6.5	<1.0	2	83	<1.0	<1.0	1.8
23...	4.0	2.8	.798	.382	.278	16	1.2	2	60	<1.0	<1.0	1.5
27...	1.2	.94	.373	.226	.233	--	--	--	--	--	--	--
JUN												
13...	2.5	1.2	.493	.079	.079	14	<1.0	2	41	<1.0	<1.0	1.0
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
11...	--	--	--	--	--	5.5	<1.0	3	80	<1.0	<1.0	2.8
21...	1.0	.72	.333	.275	.242	--	--	--	--	--	--	--
AUG												
08...	.70	.30	.264	.178	.159	5.2	<1.0	4	80	<1.0	<1.0	1.9
29...	.99	.80	.273	.178	.176	--	--	--	--	--	--	--
SEP												
05...	1.0	.71	.328	.196	.185	10	<1.0	2	74	<1.0	<1.0	1.7
26...	1.0	.72	.247	.137	.138	--	--	--	--	--	--	--

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
OCT												
17...	<1.0	4.0	75	<1.0	11	10	3.0	<1	<1.0	8.0	<1.0	6.0
29...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
26...	<1.0	4.0	180	<1.0	47	1.0	3.0	<1	<1.0	7.0	<1.0	10
DEC												
10...	<1.0	4.0	100	<1.0	20	<1.0	2.0	<1	<1.0	10	<1.0	8.2
JAN												
13...	<1.0	4.0	61	<1.0	12	<1.0	2.0	<1	<1.0	11	<1.0	7.8
29...	--	--	68	--	24	--	--	--	--	--	--	6.9
FEB												
07...	<1.0	3.0	27	<1.0	25	1.0	3.0	<1	<1.0	8.0	<1.0	5.8
21...	--	--	54	--	22	--	--	--	--	--	--	9.0
MAR												
07...	<1.0	5.0	70	<1.0	26	2.0	3.0	<1	<1.0	12	<1.0	7.7
21...	--	--	80	--	48	--	--	--	--	--	--	6.9
APR												
10...	<1.0	3.0	150	<1.0	46	5.0	3.0	<1	<1.0	11	<1.0	6.4
23...	--	--	140	--	32	--	--	--	--	--	--	13
MAY												
12...	<1.0	3.2	140	<1.0	68	4.0	2.5	<1	<1.0	6.2	<1.0	6.4
23...	1.0	6.1	200	1.3	106	2.7	4.4	<1	<1.0	19	<1.0	--
27...	--	--	200	--	88	--	--	--	--	--	--	--
JUN												
13...	<1.0	4.7	110	<1.0	65	1.2	2.8	<1	<1.0	8.7	<1.0	18
26...	--	--	--	--	--	--	--	--	--	--	--	6.6
JUL												
11...	<1.0	3.1	100	<1.0	56	2.2	2.0	<1	<1.0	4.0	<1.0	7.6
21...	--	--	89	--	38	--	--	--	--	--	--	7.0
AUG												
08...	<1.0	4.2	81	<1.0	35	1.2	1.8	<1	<1.0	3.5	<1.0	6.4
29...	--	--	71	--	40	--	--	--	--	--	--	6.3
SEP												
05...	<1.0	3.3	80	<1.0	42	1.5	2.1	<1	<1.0	4.2	<1.0	7.2
26...	--	--	46	--	43	--	--	--	--	--	--	1.2

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ACETATE VINYL WATER UNFLTRD RECOVER (UG/L) (77057)	ACETONE WATER WHOLE TOTAL (UG/L) (81552)	ACRO-LEIN TOTAL (UG/L) (34210)	ACRYLO-NITRILE TOTAL (UG/L) (34215)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)	BENZENE 1,2,4-TRI-CHLORO-WAT UNF REC (UG/L) (34551)	BENZENE 1,3-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34571)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L) (77223)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)
OCT												
17...	.60	--	--	--	--	--	--	--	--	--	--	--
29...	--	<50.0	E17.1	<20.0	<20.0	<2.00	<2.00	<.500	<.500	<.500	<.500	<.500
29...	--	<20.0	14.5	<8.00	<8.00	<.800	<.800	<.200	<.200	<.200	<.200	<.200
30...	--	<20.0	7.90	<8.00	<8.00	<.800	<.800	<.200	<.200	<.200	<.200	<.200
NOV												
26...	.60	<10.0	E2.80	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
DEC												
10...	3.2	<10.0	<10.0	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
JAN												
13...	.80	<10.0	<6.90	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
29...	.50	<20.0	E3.90	<8.00	<8.00	<.800	<.800	<.200	<.200	<.200	<.200	<.200
FEB												
07...	.30	<10.0	E2.00	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
21...	.40	<20.0	E6.00	<8.00	<8.00	<.800	<.800	<.200	<.200	<.200	<.200	<.200
MAR												
07...	.40	<10.0	<10.0	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
21...	.20	<10.0	<10.0	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
APR												
10...	.40	<10.0	<10.0	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
23...	1.4	<50.0	<50.0	<20.0	<20.0	<2.00	<2.00	<.500	<.500	<.500	<.500	<.500
MAY												
12...	.30	<10.0	E2.00	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
23...	--	<10.0	17.7	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
27...	--	<10.0	<10.0	<4.00	<4.00	<.400	<.400	<.100	<.100	<.100	<.100	<.100
JUN												
13...	4.2	--	E17.0	<5.73	<4.90	<1.06	<.752	<.216	<.200	<.128	<.744	<.168
26...	1.7	--	<9.81	<2.86	<2.45	<.532	<.376	<.108	<.100	<.064	<.372	<.084
JUL												
11...	.30	--	<19.6	<5.73	<4.90	<1.06	<.752	<.216	<.200	<.128	<.744	<.168
21...	.50	--	E6.00	<2.86	<2.45	<.532	<.376	<.108	<.100	<.064	<.372	<.084
AUG												
08...	.90	--	<9.81	<2.86	<2.45	<.532	<.376	<.108	<.100	<.064	<.372	<.084
29...	.50	--	E3.00	<2.86	<2.45	<.532	<.376	<.108	<.100	<.064	<.372	<.084
SEP												
05...	2.8	--	<4.90	<2.86	<2.45	<.532	<.376	<.108	<.100	<.064	<.372	<.084
26...	.80	--	<9.81	<2.86	<2.45	<.532	<.376	<.108	<.100	<.064	<.372	<.084

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	BENZENE O-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34536)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L) (77353)	BENZENE TOTAL (UG/L) (34030)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	BENZENE 14BRFL-SURROG VOC UNFLTRD REC PERCENT (99834)	BROMO-ETHENE WATER UNFLTRD RECOVER (UG/L) (50002)	BROMO-FORM TOTAL (UG/L) (32104)	CARBON DI. SULFIDE WATER WHOLE TOTAL (UG/L) (77041)	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L) (32102)	CHLORO-BENZENE TOTAL (UG/L) (34301)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L) (32105)
OCT												
17...	--	--	--	--	--	--	--	--	--	--	--	--
29...	<.500	<.500	<.500	<.500	<.500	104	<1.00	<2.00	<.500	<.500	<.500	<1.00
29...	<.200	<.200	<.200	<.200	<.200	104	<.400	<.800	E.100	<.200	<.200	<.400
30...	<.200	<.200	<.200	<.200	<.200	105	<.400	<.800	<.200	<.200	<.200	<.400
NOV												
26...	<.100	<.100	<.100	<.100	<.100	98.0	<.200	<.400	<.100	<.100	<.100	<.200
DEC												
10...	<.100	<.100	<.100	E.030	<.100	102	<.200	<.400	<.100	<.100	<.100	<.200
JAN												
13...	<.100	<.100	<.100	<.100	<.100	100	<.200	<.400	<.100	<.100	<.100	<.200
29...	<.200	<.200	<.200	E.040	<.200	100	<.400	<.800	E.008	<.200	<.200	<.400
FEB												
07...	<.100	<.100	<.100	<.100	<.100	100	<.200	<.400	<.100	<.100	<.100	<.200
21...	<.200	<.200	<.200	<.200	<.200	101	<.400	<.800	<.200	<.200	<.200	<.400
MAR												
07...	<.100	<.100	<.100	<.100	<.100	103	<.200	<.400	<.100	<.100	<.100	<.200
21...	<.100	<.100	<.100	<.100	<.100	98.0	<.200	<.400	<.100	<.100	<.100	<.200
APR												
10...	<.100	<.100	<.100	<.100	<.100	95.0	<.200	<.400	<.100	<.100	<.100	<.200
23...	<.500	<.500	<.500	<.500	<.500	102	<1.00	<2.00	<.500	<.500	<.500	<1.00
MAY												
12...	<.100	<.100	<.100	<.100	<.100	101	<.200	<.400	<.100	<.100	<.100	<.200
23...	<.100	<.100	<.100	<.100	<.100	99.0	<.200	<.400	E.010	<.100	<.100	<.200
27...	<.100	<.100	<.100	<.100	<.100	97.0	<.200	<.400	<.100	<.100	<.100	<.200
JUN												
13...	<.192	<.192	<.384	<.128	<.144	104	<.400	<.416	<.320	<.352	<.112	<.728
26...	<.096	<.096	<.192	<.064	<.072	102	<.200	<.208	<.160	<.176	<.056	<.364
JUL												
11...	<.192	<.192	<.384	<.128	<.144	96.0	<.400	<.416	<.320	<.352	<.112	<.728
21...	<.096	<.096	<.192	<.064	<.072	94.0	<.200	<.208	E.020	<.176	<.056	<.364
AUG												
08...	<.096	<.096	<.192	<.064	<.072	93.0	<.200	<.208	<.160	<.176	<.056	<.364
29...	<.096	<.096	<.192	<.064	<.072	104	<.200	<.208	<.160	<.176	<.056	<.364
SEP												
05...	<.096	<.096	<.192	<.064	<.072	108	<.200	<.208	E.010	<.176	<.056	<.364
26...	<.096	<.096	<.192	E.020	<.072	91.0	<.200	<.208	<.160	<.176	<.056	<.364

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	CHLORO-ETHANE TOTAL (UG/L) (34311)	CHLORO-FORM TOTAL (UG/L) (32106)	CIS-1,2-DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	DI-BROMO-METHANE WATER WHOLE RECOVER (UG/L) (30217)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L) (32101)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	ETHANE 12DICL SURROG VOC UNFLTRD REC PERCENT (99832)	DI-ISO-PROPYL-ETHER, WATER, UNFLTRD RECOVER (UG/L) (81577)	ETHANE HEXA-CHLORO-WATER UNFLTRD RECOVER (UG/L) (34396)
OCT												
17...	--	--	--	--	--	--	--	--	--	--	--	--
29...	<1.00	<.500	<.500	<1.00	<5.00	<1.00	<1.00	<1.00	<2.00	104	<1.00	<.500
29...	E.070	<.200	<.200	<.400	<2.00	<.400	<.400	<.400	<.800	106	<.400	<.200
30...	<.400	E.030	<.200	<.400	<2.00	<.400	<.400	<.400	<.800	96.0	<.400	<.200
NOV												
26...	<.200	<.100	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	105	<.200	<.100
DEC												
10...	<.200	<.100	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	103	<.200	<.100
JAN												
13...	<.200	E.020	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	106	<.200	<.100
29...	<.400	<.200	<.200	<.400	<2.00	<.400	<.400	<.400	<.800	109	<.400	<.200
FEB												
07...	<.200	<.100	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	102	<.200	<.100
21...	<.400	<.200	<.200	<.400	<2.00	<.400	<.400	<.400	<.800	104	<.400	<.200
MAR												
07...	<.200	E.060	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	105	<.200	<.100
21...	<.200	<.100	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	105	<.200	<.100
APR												
10...	<.200	E.030	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	99.0	<.200	<.100
23...	<1.00	<.500	<.500	<1.00	<5.00	<1.00	<1.00	<1.00	<2.00	107	<1.00	<.500
MAY												
12...	<.200	E.020	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	108	<.200	<.100
23...	<.200	<.100	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	107	<.200	<.100
27...	<.200	<.100	<.100	<.200	<1.00	<.200	<.200	<.200	<.400	111	<.200	<.100
JUN												
13...	<.480	E.040	<.152	<.368	<.856	<.144	<.200	<.192	<.384	120	<.392	<1.45
26...	<.240	E.020	<.076	<.184	<.428	<.072	<.100	<.096	<.192	127	<.196	<.724
JUL												
11...	<.480	<.208	<.152	<.368	<.856	<.144	<.200	<.192	<.384	105	<.392	<1.45
21...	<.240	E.040	<.076	<.184	<.428	<.072	<.100	<.096	<.192	106	<.196	<.724
AUG												
08...	<.240	E.020	<.076	<.184	<.428	<.072	<.100	<.096	<.192	96.0	<.196	<.724
29...	<.240	E.020	<.076	<.184	<.428	<.072	<.100	<.096	<.192	98.0	<.196	<.724
SEP												
05...	<.240	E.040	<.076	<.184	<.428	<.072	<.100	<.096	<.192	102	<.196	<.724
26...	<.240	E.020	<.076	<.184	<.428	<.072	<.100	<.096	<.192	101	<.196	<.724

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)	ETHANE, 1,1,2,2 TETRA-CHLORO-WAT UNF REC (UG/L) (34516)	ETHER ETHYL-WATER UNFLTRD RECOVER (UG/L) (81576)	ETHER TERT-BUTYL ETHYL-UNFLTRD RECOVER (UG/L) (50004)	ETHER TERT-PENTYL METHYL-UNFLTRD RECOVER (UG/L) (50005)	ETHYL-BENZENE TOTAL (UG/L) (34371)	FURAN TETRA-HYDRO-WATER UNFLTRD RECOVER (UG/L) (81607)	FREON-113 WATER UNFLTRD REC (UG/L) (77652)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	BENZENE 135-TRI METHYL WATER UNFLTRD REC (UG/L) (77226)	ISO-DURENE WATER UNFLTRD RECOVER (UG/L) (50000)
OCT											
17...	--	--	--	--	--	--	--	--	--	--	--
29...	<.500	<1.00	<1.00	<1.00	<1.00	<.500	<50.0	<.500	<2.00	<.500	<.500
29...	<.200	<.400	<.400	<.400	<.400	E.010	<20.0	<.200	<.800	<.200	<.200
30...	<.200	<.400	<.400	<.400	<.400	<.200	<20.0	<.200	<.800	<.200	<.200
NOV											
26...	<.100	<.200	<.200	<.200	<.200	E.010	<10.0	<.100	<.400	<.100	<.100
DEC											
10...	<.100	<.200	<.200	<.200	<.200	<.100	<10.0	<.100	<.400	<.100	<.100
JAN											
13...	<.100	<.200	E.070	<.200	E.020	<.100	<10.0	<.100	<.400	<.100	<.100
29...	<.200	<.400	<.400	<.400	<.400	<.200	<20.0	<.200	<.800	<.200	<.200
FEB											
07...	<.100	<.200	<.200	<.200	<.200	<.100	<10.0	<.100	<.400	<.100	<.100
21...	<.200	<.400	<.400	<.400	<.400	<.200	<20.0	<.200	<.800	<.200	<.200
MAR											
07...	<.100	<.200	<.200	<.200	E.020	<.100	<10.0	<.100	<.400	<.100	<.100
21...	<.100	<.200	<.200	<.200	<.200	<.100	<10.0	<.100	<.400	<.100	<.100
APR											
10...	<.100	<.200	<.200	<.200	<.200	<.100	E.500	<.100	<.400	<.100	<.100
23...	<.500	<1.00	<1.00	<1.00	<1.00	<.500	<50.0	<.500	<2.00	<.500	<.500
MAY											
12...	<.100	<.200	<.200	<.200	<.200	<.100	<10.0	<.100	<.400	<.100	<.100
23...	<.100	<.200	<.200	<.200	<.200	E.020	<10.0	<.100	<.400	<.100	<.100
27...	<.100	<.200	<.200	<.200	<.200	<.100	<10.0	<.100	<.400	<.100	<.100
JUN											
13...	<.176	<.528	<.680	<.216	<.448	<.120	<4.59	<.128	<.568	<.176	<.960
26...	<.088	<.264	E.080	<.108	<.224	<.060	<2.30	<.064	<.284	<.088	<.480
JUL											
11...	<.176	<.528	<.680	<.216	<.448	<.120	<4.59	<.128	<.568	<.176	<.960
21...	<.088	<.264	<.340	<.108	<.224	<.060	<2.30	<.064	<.284	<.088	<.480
AUG											
08...	<.088	<.264	<.340	<.108	<.224	<.060	<2.30	<.064	<.284	<.088	<.480
29...	<.088	<.264	<.340	<.108	<.224	<.060	<2.30	<.064	<.284	<.088	<.480
SEP											
05...	<.088	<.264	<.340	<.108	<.224	<.060	<2.30	<.064	<.284	<.088	<.480
26...	<.088	<.264	<.340	<.108	E.050	<.060	<2.30	<.064	<.284	<.088	<.480

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	META/ PARA- XYLENE WATER UNFLTRD REC (UG/L) (85795)	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L) (77297)	METHYL ACRY- LATE WATER UNFLTRD RECOVER (UG/L) (49991)	METHAC- RYLATE ETHYL- WATER UNFLTRD RECOVER (UG/L) (73570)	METHAC- RYLATE METHYL WATER UNFLTRD RECOVER (UG/L) (81597)	METH- ACRYLO- NITRITE WATER UNFLTRD RECOVER (UG/L) (81593)	METHYL IODIDE WATER UNFLTRD RECOVER (UG/L) (77424)	METHYL TERT- BUTYL ETHER WAT UNF REC (UG/L) (78032)	METHYL- BROMIDE TOTAL (UG/L) (34413)	METHYL- CHLO- RIDE TOTAL (UG/L) (34418)	METHYL- ENE CHLO- RIDE TOTAL (UG/L) (34423)
OCT											
17...	--	--	--	--	--	--	--	--	--	--	--
29...	<.500	<1.00	<20.0	<10.0	<10.0	<20.0	<.500	E.400	<1.00	<2.00	<1.90
29...	E.070	<.400	<8.00	<4.00	<4.00	<8.00	<.200	.760	<.400	E.100	<.800
30...	E.070	<.400	<8.00	<4.00	<4.00	<8.00	<.200	1.20	<.400	<.800	.960
NOV											
26...	E.030	<.200	<4.00	<2.00	<2.00	<4.00	<.100	.410	<.200	<.400	<.200
DEC											
10...	E.050	<.200	<4.00	<2.00	<2.00	<4.00	<.100	.260	<.200	<.400	<.200
JAN											
13...	E.020	<.200	<4.00	<2.00	<2.00	<4.00	<.100	.590	<.200	E.060	<.200
29...	<.200	<.400	<8.00	<4.00	<4.00	<8.00	<.200	.470	<.400	<.800	<.400
FEB											
07...	E.040	<.200	<4.00	<2.00	<2.00	<4.00	<.100	1.60	<.200	<.400	<.200
21...	<.200	<.400	<8.00	<4.00	<4.00	<8.00	<.200	.580	<.400	<.800	<.400
MAR											
07...	E.020	<.200	<4.00	<2.00	<2.00	<4.00	<.100	1.06	<.200	E.060	<.200
21...	E.010	<.200	<4.00	<2.00	<2.00	<4.00	<.100	.848	<.200	<.400	<.200
APR											
10...	<.100	<.200	<4.00	<2.00	<2.00	<4.00	<.100	E.100	<.200	<.400	<.200
23...	<.500	<1.00	<20.0	<10.0	<10.0	<20.0	<.500	<1.00	<1.00	<2.00	<1.00
MAY											
12...	E.050	<.200	<4.00	<2.00	<2.00	<4.00	<.100	E.100	<.200	<.400	.486
23...	E.070	<.200	<4.00	<2.00	<2.00	<4.00	<.100	.465	<.200	E.100	<.335
27...	<.100	<.200	<4.00	<2.00	<2.00	<4.00	<.100	E.100	<.200	<.400	<.358
JUN											
13...	E.080	<.176	<2.45	<1.11	<1.40	<2.28	<.304	<.448	<.592	<1.02	<1.53
26...	<.128	<.088	<1.22	<.556	<.700	<1.14	<.152	.445	<.296	E.010	<.764
JUL											
11...	<.256	<.176	<2.45	<1.11	<1.40	<2.28	<.304	E.100	<.592	<1.02	<1.53
21...	<.128	<.088	<1.22	<.556	<.700	<1.14	<.152	E.100	<.296	<.508	<.764
AUG											
08...	<.128	<.088	<1.22	<.556	<.700	<1.14	<.152	.233	<.296	E.040	<.764
29...	<.128	<.088	<1.22	<.556	<.700	<1.14	<.152	<.224	<.296	<.508	<.764
SEP											
05...	E.030	<.088	<1.22	<.556	<.700	<1.14	<.152	.306	<.296	<.508	<.764
26...	<.128	<.088	<1.22	<.556	<.700	<1.14	<.152	.769	<.296	E.030	<.764

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	METHYL-ETHYL-KETONE WATER WHOLE TOTAL (UG/L) (81595)	METHYL-ISO-BUTYL-KETONE WAT.WH. TOTAL (UG/L) (78133)	NAPHTH-ALENE TOTAL (UG/L) (34696)	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	O-XYLENE WATER WHOLE TOTAL (UG/L) (77135)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L) (34496)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L) (34501)	1,1-DI CHLORO-PRO-PENE, WAT, WH TOTAL (UG/L) (77168)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L) (34506)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L) (34511)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L) (32103)
OCT											
17...	--	--	--	--	--	--	--	--	--	--	--
29...	<50.0	E1.00	<2.00	<.500	<.500	<.500	<1.00	<.500	<.500	<1.00	<.500
29...	E1.90	E.400	<.800	E.050	<.200	<.200	<.400	<.200	<.200	<.400	<.200
30...	<20.0	<20.0	<.800	<.200	E.040	<.200	<.400	<.200	<.200	<.400	<.200
NOV											
26...	E.700	<10.0	<.400	<.100	<.100	<.100	<.200	<.100	<.100	<.200	<.100
DEC											
10...	<10.0	<10.0	<.400	<.100	<.100	<.100	<.200	<.100	<.100	<.200	<.100
JAN											
13...	<10.0	E.100	<.400	<.100	E.010	<.100	<.200	<.100	<.100	<.200	<.100
29...	<20.0	<20.0	<.800	<.200	<.200	<.200	<.400	<.200	<.200	<.400	<.200
FEB											
07...	<10.0	<10.0	<.400	<.100	E.020	<.100	<.200	<.100	<.100	<.200	<.100
21...	<20.0	E.200	<.800	<.200	<.200	<.200	<.400	<.200	<.200	<.400	<.200
MAR											
07...	E.400	E.200	<.400	<.100	<.100	<.100	<.200	<.100	<.100	<.200	<.100
21...	<10.0	E.090	<.400	<.100	<.100	<.100	<.200	<.100	<.100	<.200	<.100
APR											
10...	<10.0	<10.0	<.400	<.100	<.100	<.100	<.200	<.100	<.100	<.200	<.100
23...	<50.0	<50.0	<2.00	<.500	<.500	<.500	<1.00	<.500	<.500	<1.00	<.500
MAY											
12...	<10.0	<10.0	<.400	<.100	<.100	<.100	<.200	<.100	<.100	<.200	<.100
23...	2.90	E.300	<.400	<.100	E.030	<.100	<.200	<.100	<.100	<.200	<.100
27...	<10.0	<10.0	<.400	<.100	<.100	<.100	<.200	<.100	<.100	<.200	<.100
JUN											
13...	<6.60	<1.50	<1.00	<.168	<.256	<.264	<.176	<.104	<.128	<.256	<.536
26...	E1.00	<.748	<.500	<.084	<.128	<.132	<.088	<.052	<.064	<.128	<.268
JUL											
11...	<6.60	<1.50	<1.00	<.168	<.256	<.264	<.176	<.104	<.128	<.256	<.536
21...	<3.30	<.748	<.500	<.084	<.128	<.132	<.088	<.052	<.064	<.128	<.268
AUG											
08...	E.800	<.748	<.500	<.084	<.128	<.132	<.088	<.052	<.064	<.128	<.268
29...	<3.30	<.748	<.500	<.084	<.128	<.132	<.088	<.052	<.064	<.128	<.268
SEP											
05...	<3.30	<.748	<.500	<.084	E.010	<.132	<.088	<.052	<.064	<.128	<.268
26...	<3.30	<.748	<.500	<.084	<.128	<.132	<.088	<.052	<.064	<.128	<.268

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	1,2-DI-CHLORO-PROPANE TOTAL (UG/L) (34541)	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L) (34546)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)	PREH-NITENE WATER UNFLTRD RECOVER (UG/L) (49999)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	PROPENE 3-CHLORO-WATER UNFLTRD RECOVER (UG/L) (78109)	BENZENE 124-TRI METHYL UNFILT RECOVER (UG/L) (77222)	STYRENE TOTAL (UG/L) (77128)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L) (34475)
OCT										
17...	--	--	--	--	--	--	--	--	--	--
29...	<.500	<2.00	<.500	E.100	<.500	<.500	<1.00	<.500	<.500	E.060
29...	<.200	<.800	<.200	E.200	<.200	<.200	<.400	E.040	<.200	E.050
30...	<.200	<.800	<.200	E.070	<.200	<.200	<.400	E.030	E.010	E.200
NOV										
26...	<.100	<.400	<.100	E.009	<.100	<.100	<.200	<.100	E.020	E.040
DEC										
10...	<.100	<.400	<.100	<.100	<.100	<.100	<.200	<.100	<.100	E.020
JAN										
13...	<.100	<.400	<.100	E.006	<.100	<.100	<.200	<.100	<.100	<.100
29...	<.200	<.800	<.200	<.200	<.200	<.200	<.400	<.200	<.200	<.200
FEB										
07...	<.100	<.400	<.100	<.100	<.100	<.100	<.200	<.100	<.100	<.100
21...	<.200	<.800	<.200	<.200	<.200	<.200	<.400	<.200	<.200	<.200
MAR										
07...	<.100	<.400	<.100	E.009	<.100	<.100	<.200	<.100	<.100	<.100
21...	<.100	<.400	<.100	<.100	<.100	<.100	<.200	<.100	<.100	<.100
APR										
10...	<.100	<.400	<.100	<.100	<.100	<.100	<.200	<.100	<.100	<.100
23...	<.500	<2.00	<.500	<.500	<.500	<.500	<1.00	<.500	<.500	<.500
MAY										
12...	<.100	<.400	<.100	<.100	<.100	<.100	<.200	<.100	<.100	<.100
23...	<.100	<.400	<.100	.291	<.100	<.100	<.200	E.040	<.100	<.100
27...	<.100	<.400	<.100	<.100	<.100	<.100	<.200	<.100	<.100	<.100
JUN										
13...	<.272	<.280	<.128	E.060	<.920	<.464	<.784	E.030	<.168	<.152
26...	<.136	<.140	<.064	<.220	<.460	<.232	<.392	<.112	<.084	<.076
JUL										
11...	<.272	<.280	<.128	<.440	<.920	<.464	<.784	<.224	<.168	<.152
21...	<.136	<.140	<.064	<.220	<.460	<.232	<.392	<.112	<.084	<.076
AUG										
08...	<.136	<.140	<.064	<.220	<.460	<.232	<.392	<.112	<.084	<.076
29...	<.136	<.140	<.064	E.010	<.460	<.232	<.392	<.112	<.084	<.076
SEP										
05...	<.136	<.140	<.064	E.010	<.460	<.232	<.392	<.112	<.084	<.076
26...	<.136	<.140	<.064	E.010	<.460	<.232	<.392	<.112	<.084	<.076

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TOLUENE O-ETHYL WATER UNFLTRD RECOVER (UG/L) (77220)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	TOLUENE TOTAL (UG/L) (34010)	TOLUENE D8 SURROG VOC UNFLTRD REC PERCENT (99833)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L) (39180)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L) (34488)	2BUTENE TRANS-1 4-DI-CHLORO UNFLTRD RECOVER (UG/L) (73547)	2-HEXA-NONE WATER WHOLE TOTAL (UG/L) (77103)	2,2-DI CHLORO-PRO-PANE WAT, WH TOTAL (UG/L) (77170)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)
OCT											
17...	--	--	--	--	--	--	--	--	--	--	--
29...	<.500	<.500	<.500	100	<1.00	<.500	<1.00	<50.0	<50.0	<.500	<1.00
29...	<.200	<.200	E.300	100	<.400	<.200	<.400	<20.0	<20.0	<.200	<.400
30...	<.200	<.200	E.100	100	<.400	<.200	<.400	<20.0	<20.0	<.200	<.400
NOV											
26...	<.100	<.100	.590	99.0	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
DEC											
10...	<.100	<.100	E.100	98.0	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
JAN											
13...	<.100	<.100	.460	98.0	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
29...	<.200	<.200	.420	98.0	<.400	<.200	<.400	<20.0	<20.0	<.200	<.400
FEB											
07...	<.100	<.100	.410	99.0	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
21...	<.200	<.200	E.300	99.0	<.400	<.200	<.400	<20.0	<20.0	<.200	<.400
MAR											
07...	<.100	<.100	E.100	99.0	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
21...	<.100	<.100	E.100	100	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
APR											
10...	<.100	<.100	E.100	99.0	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
23...	<.500	<.500	<.500	101	<1.00	<.500	<1.00	<50.0	<50.0	<.500	<1.00
MAY											
12...	<.100	<.100	E.100	100	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
23...	<.100	<.100	1.76	100	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
27...	<.100	<.100	E.100	98.0	<.200	<.100	<.200	<10.0	<10.0	<.100	<.200
JUN											
13...	<.400	<.224	E.300	102	<.536	<.152	<.368	<2.77	<2.98	<.312	<.448
26...	<.200	<.112	E.100	101	<.268	<.076	<.184	<1.38	<1.49	<.156	<.224
JUL											
11...	<.400	<.224	E.100	101	<.536	<.152	<.368	<2.77	<2.98	<.312	<.448
21...	<.200	<.112	<.079	100	<.268	<.076	<.184	<1.38	<1.49	<.156	<.224
AUG											
08...	<.200	<.112	E.030	98.0	<.268	<.076	<.184	<1.38	<1.49	<.156	<.224
29...	<.200	<.112	E.050	101	<.268	<.076	<.184	<1.38	<1.49	<.156	<.224
SEP											
05...	<.200	<.112	E.060	104	<.268	<.076	<.184	<1.38	<1.49	<.156	<.224
26...	<.200	<.112	E.040	98.0	<.268	<.076	<.184	<1.38	<1.49	<.156	<.224

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
17...N	1440	.22	14.0	12	.01
NOV					
26...N	1000	5.5	11.5	26	.39
DEC					
10...N	1300	498	12.0	242	325
JAN					
13...N	1100	12	5.5	26	.84
29...N	0930	12	11.5	22	.71
FEB					
07...N	1030	1.4	9.0	18	.07
21...N	0930	1.1	10.5	30	.09
MAR					
07...N	0940	.65	9.5	14	.02
21...N	1000	1.3	15.5	22	.08
APR					
10...N	1030	1.3	13.0	17	.06
23...N	1200	17	17.0	69	3.2
MAY					
12...N	0900	1.5	20.0	--	--
23...N	1310	117	--	656	207
27...N	1020	1.8	20.0	79	.38
JUN					
13...N	1020	60	19.0	320	52
26...N	0920	1.1	22.0	20	.06
JUL					
11...N	0900	.94	23.0	41	.10
21...N	0940	1.2	22.5	27	.09
AUG					
08...N	0910	1.8	25.5	--	--
29...N	1400	1.0	24.0	24	.06
SEP					
05...N	1000	.95	23.0	96	.25
26...N	1115	.62	20.5	39	.07

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	---	---	---	---	---	---	---	---	314	297	328	320
2	---	---	---	---	---	---	---	---	300	293	324	317
3	---	---	---	---	---	---	303	288	307	300	320	317
4	---	---	---	---	---	---	312	284	316	306	318	301
5	---	---	---	---	---	---	302	288	327	316	301	259
6	---	---	---	---	---	---	288	275	327	317	285	259
7	---	---	---	---	---	---	285	270	319	312	282	280
8	---	---	---	---	---	---	295	258	314	304	286	279
9	---	---	---	---	---	---	330	251	305	292	288	259
10	---	---	---	---	---	---	343	267	298	293	296	259
11	---	---	---	---	---	---	314	260	295	257	284	263
12	---	---	---	---	---	---	395	314	---	---	314	267
13	---	---	---	---	---	---	412	354	---	---	321	300
14	---	---	---	---	---	---	369	287	276	261	301	273
15	---	---	---	---	---	---	319	288	282	271	273	206
16	---	---	---	---	---	---	323	308	299	269	231	211
17	---	---	---	---	---	---	316	289	294	271	255	230
18	---	---	---	---	---	---	308	296	273	261	265	245
19	---	---	---	---	---	---	311	303	266	253	283	263
20	---	---	---	---	---	---	303	288	311	244	321	283
21	---	---	---	---	---	---	320	302	---	---	339	321
22	---	---	---	---	---	---	313	296	---	---	333	324
23	---	---	---	---	---	---	337	276	---	---	338	327
24	---	---	---	---	---	---	339	332	---	---	354	334
25	---	---	---	---	---	---	362	339	---	---	---	---
26	---	---	---	---	---	---	368	354	---	---	---	---
27	---	---	---	---	---	---	381	363	---	---	---	---
28	---	---	---	---	---	---	382	360	325	289	---	---
29	---	---	---	---	---	---	360	347	329	319	---	---
30	---	---	---	---	---	---	348	326	330	319	---	---
31	---	---	---	---	---	---	327	314	328	325	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	---	---	---	---	---	---	---	---	24.0	21.5	23.5	21.5
2	---	---	---	---	---	---	23.5	---	24.0	21.5	23.0	21.5
3	---	---	---	---	---	---	25.0	21.0	25.0	22.0	24.0	21.5
4	---	---	---	---	---	---	25.0	22.0	25.5	23.0	24.5	22.5
5	---	---	---	---	---	---	25.0	22.0	26.0	23.0	25.0	23.0
6	---	---	---	---	---	---	25.5	22.0	26.0	23.5	24.0	22.5
7	---	---	---	---	---	---	26.0	23.0	26.5	24.5	23.0	21.0
8	---	---	---	---	---	---	26.5	23.5	26.5	25.5	23.5	21.0
9	---	---	---	---	---	---	26.5	24.0	25.5	24.0	23.0	21.0
10	---	---	---	---	---	---	26.0	23.5	24.0	23.0	23.0	20.5
11	---	---	---	---	---	---	25.5	23.0	24.0	22.0	22.5	20.5
12	---	---	---	---	---	---	24.5	22.5	---	---	22.5	20.5
13	---	---	---	---	---	---	24.5	22.5	24.5	---	22.5	21.0
14	---	---	---	---	---	---	25.0	23.0	24.5	22.0	22.0	20.5
15	---	---	---	---	---	---	25.0	23.0	24.5	22.0	21.0	19.5
16	---	---	---	---	---	---	24.5	23.0	23.5	22.0	20.5	19.5
17	---	---	---	---	---	---	24.0	22.0	23.0	20.5	20.0	18.5
18	---	---	---	---	---	---	24.0	21.5	23.0	20.5	21.0	19.5
19	---	---	---	---	---	---	25.0	22.5	22.0	21.0	20.5	19.5
20	---	---	---	---	---	---	25.0	22.5	22.0	21.0	20.0	19.0
21	---	---	---	---	---	---	24.5	22.5	---	---	20.0	18.5
22	---	---	---	---	---	---	25.0	23.0	---	---	20.5	19.0
23	---	---	---	---	---	---	23.5	22.5	---	---	20.5	19.0
24	---	---	---	---	---	---	24.0	22.0	---	---	21.0	19.5
25	---	---	---	---	---	---	24.5	22.5	---	---	---	---
26	---	---	---	---	---	---	25.0	23.5	---	---	---	---
27	---	---	---	---	---	---	24.5	22.5	---	---	---	---
28	---	---	---	---	---	---	24.0	22.0	23.0	21.0	---	---
29	---	---	---	---	---	---	24.5	22.0	23.5	21.5	---	---
30	---	---	---	---	---	---	24.0	22.0	23.5	21.5	---	---
31	---	---	---	---	---	---	24.0	21.0	22.5	21.5	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11447650 SACRAMENTO RIVER AT FREEPORT, CA

LOCATION.--Lat 38°27'15", long 121°29'54", in SW 1/4 SW 1/4 sec.13, T.7 N., R.4 E., Sacramento County, Hydrologic Unit 18020109, on left bank 630 ft downstream from drawbridge at Freeport and 11 mi south of Sacramento.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to current year. Prior to October 1979, published as Sacramento River at Sacramento (station 11447500).

REVISED RECORD.--WDR CA-96-4: 1994-1995 (P).

GAGE.--Water-stage recorder and acoustic-velocity system. Datum of gage is sea level.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, return flow from irrigated areas, and tide. Floodflows bypass station through Sacramento Weir Spill to Yolo Bypass (stations 11426000 and 11453000). See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD (since 1949).--Maximum discharge, 117,000 ft^3/s, Feb. 19, 1986, elevation, 25.00 ft; minimum daily, 3,970 ft^3/s, Oct. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known prior to Nov. 21, 1950, 103,000 ft^3/s, Jan. 17, 1909, elevation, 29.6 ft, site then in use at present datum, from reports of California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115,000 ft^3/s, elevation, 23.80 ft, Jan. 3; maximum elevation, 23.83 ft, Jan. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14900	14600	15800	94900	81900	37200	18100	11100	13500	20100	20700	16500
2	14700	13900	15400	106000	79400	36400	17700	10600	13000	20300	20700	16300
3	14800	14200	14900	113000	78300	35600	17400	10400	13000	20300	20500	16200
4	14500	14200	16500	103000	78200	34300	16900	10400	13400	20400	20700	16100
5	14700	13800	21200	98300	77300	32500	16200	10200	13200	20700	20800	16300
6	14500	13400	39500	93700	76600	30200	15000	10000	13900	20500	21000	16300
7	13800	13200	41800	86800	75500	27600	14700	9400	14300	20200	21400	16200
8	13500	13100	40700	84300	74200	25300	13600	9480	13500	19900	21000	16200
9	13100	13000	38700	84300	72000	24200	13600	9600	13200	19700	20500	15900
10	13400	12900	42000	84500	70300	23700	13100	9470	13000	20000	20400	16000
11	13300	12800	50200	83800	68700	23000	13200	9750	13200	20300	19100	15600
12	12600	13100	59600	81400	67200	22400	13000	9960	13700	20700	18400	14700
13	12800	13100	80000	80800	65400	22000	12900	10300	14800	20800	17900	14200
14	12100	12900	82500	80900	62900	21500	12600	11000	14700	21000	17600	13700
15	11500	12800	80100	79100	59100	20500	12000	10900	15500	21100	16600	13200
16	11500	13200	78200	76400	53900	20300	11500	10800	16800	20900	16200	12100
17	11300	13500	75400	73800	48500	20800	11200	10400	17500	20900	16600	12400
18	10900	14600	72400	71500	43600	21900	10800	9360	17900	21200	17000	13200
19	11800	15400	69600	70100	40800	24800	10800	9750	16900	21200	16900	12800
20	11700	16800	66600	69400	39000	25200	11200	10000	16300	21200	16600	12800
21	11400	17200	63900	69100	37500	23300	12900	10400	15700	21500	16500	12900
22	11500	18800	64400	76500	37200	22300	14800	11000	15800	21500	17000	12900
23	11400	20600	67500	93100	36800	21900	14900	12400	15400	21900	18300	12300
24	11400	20900	65800	92600	35800	21700	15000	12900	15100	21700	19200	11800
25	12000	21600	62100	93500	34800	21200	14000	13900	15800	21700	19900	11300
26	12600	20000	58000	97500	36700	20700	13500	15100	16600	21300	20000	12100
27	11500	18700	66500	96800	36900	20700	11900	15600	16500	21300	19200	12600
28	11200	17800	81900	95100	36700	21000	10800	15400	16900	21300	18400	12100
29	11900	17800	89400	94600	---	19600	10900	15200	18000	21000	17600	12500
30	13000	17100	94000	90400	---	18300	10600	14600	19600	20600	16900	12800
31	14100	---	96400	85200	---	18400	---	14300	---	20800	16600	---
TOTAL	393400	465000	1811000	2700400	1605200	758500	404800	353670	456700	646000	580200	420000
MEAN	12690	15500	58420	87110	57330	24470	13490	11410	15220	20840	18720	14000
MAX	14900	21600	96400	113000	81900	37200	18100	15600	19600	21900	21400	16500
MIN	10900	12800	14900	69100	34800	18300	10600	9360	13000	19700	16200	11300
AC-FT	780300	922300	3592000	5356000	3184000	1504000	802900	701500	905900	1281000	1151000	833100

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12420	16420	26570	35070	40120	37260	29590	24640	17710	14580	14220	14690
MAX	28690	48820	74510	87110	79040	78290	76580	69820	48380	31000	25040	25060
(WY)	1963	1984	1984	1997	1983	1983	1982	1952	1983	1983	1983	1974
MIN	4494	6380	7208	8984	8003	6573	5961	6414	6865	6345	7061	6838
(WY)	1978	1993	1960	1991	1977	1977	1977	1992	1977	1949	1949	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1949 - 1997	
ANNUAL TOTAL	12473100		10594870			
ANNUAL MEAN	34080		29030		23530	
HIGHEST ANNUAL MEAN					46900	1983
LOWEST ANNUAL MEAN					7608	1977
HIGHEST DAILY MEAN	96400	Dec 31	113000	Jan 3	115000	Feb 19 1986
LOWEST DAILY MEAN	10900	Oct 18	9360	May 18	3970	Oct 15 1977
ANNUAL SEVEN-DAY MINIMUM	11400	Oct 17	9670	May 6	4060	Oct 13 1977
INSTANTANEOUS PEAK FLOW			115000	Jan 3	117000	Feb 19 1986
INSTANTANEOUS PEAK STAGE			23.83	Jan 3	25.00	Feb 19 1986
ANNUAL RUNOFF (AC-FT)	24740000		21010000		17040000	
10 PERCENT EXCEEDS	70100		77700		55300	
50 PERCENT EXCEEDS	21800		17500		15800	
90 PERCENT EXCEEDS	13800		11500		8840	

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1957 to current year.
CHEMICAL DATA: Water years 1959 to current year.
BIOLOGICAL DATA: Water years 1974-81.
SPECIFIC CONDUCTANCE: Water years 1974-75, 1989-94, 1995 to current year.
WATER TEMPERATURE: Water year 1960 to current year.
SEDIMENT DATA: Water year 1957 to current year (prior to water year 1980, published as 11447500 Sacramento River at Sacramento).

PERIOD OF DAILY RECORD.--
CHEMICAL DATA: June 1960 to June 1963.
SPECIFIC CONDUCTANCE: Water years 1974-75, 1989-94, October 1995 to current year.
WATER TEMPERATURE: June 1960 to current year.
SUSPENDED SEDIMENT: October 1956 to current year.

INSTRUMENTATION.--Temperature recorder June 1960 to November 1988. Water-quality monitor since November 1988.

REMARKS.--Records of sediment discharge from 1957 to 1979 were obtained at Sacramento and are considered equivalent. Additional specific-conductance and monthly chemical and trace-element data are available in files of the U.S. Geological Survey. Interruption in record was due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 318 microsiemens, Nov. 22, 1974; minimum recorded, 32 microsiemens, Apr. 6, 1974.
WATER TEMPERATURE: Maximum recorded, 27.0°C, Sept. 8, 1977; minimum recorded, 3.0°C, Dec. 25-27, 1990.
SEDIMENT CONCENTRATION: Maximum daily mean, 1,960 mg/L, Dec. 24, 1964; minimum daily, 2 mg/L, Jan. 27, 31, and Nov. 21, 1991.
SEDIMENT LOAD: Maximum daily, 525,000 tons, Dec. 24, 1964; minimum daily, 35 tons, Jan. 31, 1991.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 203 microsiemens, Sept. 4; minimum recorded, 45 microsiemens, Jan. 3, 4.
WATER TEMPERATURE: Maximum recorded, 24.0°C, May 19; minimum recorded, 7.0°C, Jan. 14-16.
SEDIMENT CONCENTRATION: Maximum daily mean, 418 mg/L, Jan. 4, minimum daily mean, 11 mg/L, Sept. 20, 21.
SEDIMENT LOAD: Maximum daily, 122,000 tons, Jan. 3; minimum daily, 359 tons, May 15.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
10...	1000	16700	121	7.6	19.5	766	9.1	98	9.7	5.4
NOV										
15...	1030	9900	128	7.9	13.0	758	10.4	99	11	5.5
DEC										
17...	1130	75100	98	7.6	11.0	767	10.5	94	8.5	4.0
JAN										
06...	1100	94600	51	7.0	9.5	769	7.7	67	4.8	1.7
FEB										
11...	1000	68800	101	7.6	9.0	763	11.0	95	8.7	4.1
MAR										
11...	1050	23800	140	7.7	12.0	763	10.6	99	12	5.9
APR										
14...	1000	9720	166	8.0	--	764	10.2	--	13	7.0
28...	0950	7300	129	7.9	17.5	761	9.6	100	10	5.4
MAY										
08...	1010	13400	130	8.0	19.5	763	9.4	102	11	5.3
22...	1100	16100	148	7.7	21.0	760	8.9	100	13	6.4
JUN										
05...	1030	17000	115	8.0	20.0	758	8.6	95	9.5	4.8
20...	0930	19300	117	7.7	22.5	759	8.4	97	9.2	4.9
JUL										
14...	1230	21900	120	7.7	21.0	762	8.7	98	9.4	4.7
29...	1030	24400	124	7.7	21.0	764	8.8	99	10	5.0
AUG										
12...	1120	19300	140	7.7	20.5	762	8.7	96	11	5.7
SEP										
23...	1030	10900	153	7.6	20.5	758	9.2	103	12	6.3

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
10...	5.7	21	1.0	55	4.0	3.5	<.10	16	78	78
NOV										
15...	7.1	23	1.3	49	4.8	4.2	<.10	17	81	85
DEC										
17...	4.7	21	1.2	42	3.4	2.4	<.10	15	67	66
JAN										
06...	1.8	16	1.0	21	1.7	1.1	<.10	9.2	37	35
FEB										
11...	4.3	19	1.0	42	3.9	2.6	<.10	14	67	66
MAR										
11...	6.5	20	1.0	49	7.0	4.6	<.10	16	84	88
APR										
14...	8.6	23	1.2	61	8.9	6.4	<.10	16	106	102
28...	6.7	23	1.0	51	7.0	4.4	<.10	16	84	84
MAY										
08...	7.1	23	1.1	49	6.4	5.1	<.10	16	91	84
22...	8.1	23	1.2	55	7.4	5.7	<.10	17	99	95
JUN										
05...	5.9	22	1.1	46	4.3	3.9	<.10	16	87	77
20...	5.8	22	1.0	44	3.1	3.7	<.10	18	76	76
JUL										
14...	6.4	24	1.0	46	4.3	2.7	<.10	16	71	76
29...	7.0	24	1.0	49	4.8	3.1	<.10	17	87	80
AUG										
12...	8.3	26	1.0	54	4.6	3.8	<.10	18	100	88
SEP										
23...	9.5	26	1.4	56	6.1	5.7	<.10	20	95	100

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
10...	.11	<.010	.100	<.015	<.20	<.20	.020	.010	.020	6.0
NOV										
15...	.11	<.010	.100	<.015	<.20	<.20	.030	.040	.020	4.0
DEC										
17...	.09	<.010	.140	.030	<.20	<.20	.030	<.010	.010	14
JAN										
06...	.05	<.010	.120	.020	.20	<.20	.210	.010	<.010	29
FEB										
11...	.09	.010	.170	<.015	<.20	<.20	.070	<.010	<.010	9.0
MAR										
11...	.11	<.010	.200	<.015	<.20	<.20	.030	.010	.020	8.0
APR										
14...	.14	<.010	.190	<.015	.20	<.20	.040	<.010	.010	4.0
28...	.11	<.010	.156	<.015	.22	<.20	.040	.021	.023	--
MAY										
08...	.12	<.010	.101	<.015	<.20	<.20	.024	.021	.017	--
22...	.13	<.010	.089	<.015	<.20	<.20	.015	.011	.022	6.2
JUN										
05...	.12	<.010	.123	<.015	<.20	<.20	.033	<.010	.028	--
20...	.10	<.010	.086	<.015	<.20	<.20	.055	.027	.014	6.2
JUL										
14...	.10	<.010	.075	<.015	<.20	<.20	.043	<.010	.023	6.9
29...	.12	<.010	.058	.020	<.20	<.20	.037	.012	.021	--
AUG										
12...	.14	<.010	.079	.035	<.20	<.20	.041	.011	.025	7.1
SEP										
23...	.13	<.010	.131	<.015	<.20	<.20	.016	.016	.021	6.5

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT 10...	<1.0	1	19	<1.0	<1.0	<1.0	<1.0	1.0	10	<1.0
NOV 15...	<1.0	1	20	<1.0	<1.0	<1.0	<1.0	1.0	13	<1.0
DEC 17...	<1.0	<1	24	<1.0	<1.0	<1.0	<1.0	3.0	20	<1.0
JAN 06...	<1.0	<1	10	<1.0	<1.0	<1.0	<1.0	2.0	37	<1.0
FEB 11...	<1.0	1	16	<1.0	<1.0	<1.0	<1.0	2.0	12	<1.0
MAR 11...	<1.0	<1	21	<1.0	<1.0	1.0	<1.0	2.0	8.0	<1.0
APR 14...	<1.0	2	22	<1.0	<1.0	<1.0	<1.0	1.0	10	<1.0
MAY 22...	<1.0	2	22	<1.0	<1.0	1.7	<1.0	1.9	12	<1.0
JUN 20...	<1.0	1	17	<1.0	<1.0	<1.0	<1.0	1.6	4.2	<1.0
JUL 14...	<1.0	1	17	<1.0	<1.0	2.0	<1.0	1.5	6.9	<1.0
AUG 12...	<1.0	<1	19	<1.0	<1.0	1.4	<1.0	1.5	9.3	<1.0
SEP 23...	<1.0	2	22	<1.0	<1.0	<1.0	<1.0	2.1	12	<1.0

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT 10...	2.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.3	.30
NOV 15...	3.0	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.7	.20
DEC 17...	2.0	1.0	1.0	<1	<1.0	6.0	<1.0	2.2	.60
JAN 06...	10	<1.0	1.0	<1	<1.0	<1.0	<1.0	2.1	1.4
FEB 11...	5.0	<1.0	<1.0	<1	<1.0	1.0	<1.0	1.8	.30
MAR 11...	4.0	<1.0	<1.0	<1	<1.0	3.0	<1.0	--	--
APR 14...	2.9	<1.0	<1.0	<1	<1.0	2.0	<1.0	1.8	.50
MAY 22...	1.1	<1.0	1.3	<1	<1.0	<1.0	<1.0	1.6	.40
JUN 20...	1.5	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.7	.40
JUL 14...	2.1	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.5	.40
AUG 12...	1.3	<1.0	<1.0	<1	<1.0	1.1	<1.0	1.4	.90
SEP 23...	2.6	<1.0	1.6	<1	<1.0	2.5	<1.0	--	--

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
10...N	1000	16700	19.5	14	631	--
NOV						
15...N	1030	9900	13.0	12	321	--
DEC						
05...	1600	20400	11.0	28	1540	26
17...N	1130	75100	11.0	64	13000	--
17...	1155	74900	10.5	100	20200	48
JAN						
04...	1400	102000	10.5	412	113000	26
06...N	1100	94600	9.5	193	49300	--
FEB						
11...N	1000	68800	9.0	56	10400	--
MAR						
11...N	1050	23800	12.0	38	2440	--
APR						
14...N	1000	9720	--	25	656	--
28...N	0950	4130	17.5	13	145	--
28...	1048	7300	20.0	11	217	29
MAY						
08...N	1010	13400	19.5	--	--	--
22...N	1100	16100	21.0	26	1130	--
JUN						
05...N	1030	17000	20.0	18	826	--
20...N	0930	19300	22.5	26	1350	--
JUL						
09...	1030	19000	22.0	22	1130	63
14...N	1230	21900	21.0	37	2180	--
29...N	1030	24400	21.0	38	2500	--
AUG						
12...N	1120	19300	20.5	29	1510	--
15...	1000	21100	21.5	26	1480	74
SEP						
23...N	1030	10900	20.5	16	471	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	NUMBER OF SAM-PLING POINTS (COUNT) (00063)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)
DEC								
17...	1200	1	74800	10.5	--	1	30	83
17...	1205	1	74800	10.5	--	--	3	45
17...	1210	1	74800	10.5	--	1	12	68
17...	1220	1	74800	10.5	--	--	--	--
AUG								
15...	0926	1	21100	21.5	3	10	13	18
15...	0929	1	21100	21.5	3	10	25	57
15...	0932	1	21100	21.5	1	2	16	70
15...	0934	1	21100	21.5	4	11	47	68
15...	0937	1	21100	21.5	19	44	69	89

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM (80174)	BED MAT. SIEVE DIAM. % FINER THAN 128 MM (80175)
DEC								
17...	98	100	--	--	--	--	--	--
17...	88	97	100	--	--	--	--	--
17...	96	98	100	--	--	--	--	--
17...	--	--	--	--	2	28	39	100
AUG								
15...	76	96	99	100	--	--	--	--
15...	93	97	99	100	--	--	--	--
15...	96	99	100	--	--	--	--	--
15...	98	100	--	--	--	--	--	--
15...	96	100	--	--	--	--	--	--

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	146	137	144	121	149	140	70	67	73	70	---	---
2	137	132	163	140	150	143	68	50	76	73	---	---
3	135	126	140	134	154	142	51	45	77	75	---	---
4	133	127	134	128	146	124	54	45	79	77	---	---
5	139	125	133	128	131	103	53	50	80	79	---	---
6	142	136	130	128	103	78	54	50	82	80	---	---
7	138	128	138	130	105	86	59	54	84	80	---	---
8	131	122	135	132	107	102	61	59	88	83	---	---
9	124	119	134	130	104	94	61	60	94	88	---	---
10	123	115	144	132	117	101	61	60	---	---	---	---
11	120	115	136	129	117	101	65	60	---	---	---	---
12	119	115	132	127	102	81	70	64	---	---	---	---
13	119	110	136	132	86	78	73	70	---	---	---	---
14	116	110	155	132	101	86	78	73	---	---	143	133
15	121	115	134	129	96	92	81	77	---	---	144	134
16	119	113	132	128	99	95	85	81	---	---	141	133
17	117	113	132	129	101	97	88	84	---	---	149	136
18	121	112	137	131	106	101	92	88	---	---	159	141
19	115	112	141	136	107	104	96	92	---	---	162	152
20	120	113	142	134	107	105	99	96	---	---	159	145
21	125	116	144	140	113	106	101	99	---	---	151	128
22	118	113	142	136	112	102	101	91	---	---	141	132
23	117	111	140	132	104	97	93	68	---	---	147	136
24	117	113	148	140	102	98	68	56	---	---	153	141
25	127	116	145	137	110	102	63	56	---	---	150	135
26	144	117	138	126	118	109	65	61	---	---	143	136
27	139	134	140	128	115	98	61	59	---	---	146	137
28	134	127	140	138	98	74	60	58	---	---	144	131
29	130	127	140	138	77	73	63	60	---	---	143	133
30	128	118	140	135	79	75	65	61	---	---	142	136
31	124	117	---	---	75	70	70	65	---	---	148	138
MONTH	146	110	163	121	154	70	101	45	94	70	162	128

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	141	136	142	134	126	122	121	105	129	122	195	180
2	143	136	144	134	127	121	118	108	130	123	193	183
3	160	136	152	132	126	118	120	110	128	121	195	182
4	164	146	139	129	121	113	121	114	129	124	203	179
5	154	139	151	131	118	112	125	112	132	129	197	180
6	149	138	143	132	132	115	125	111	134	132	199	181
7	154	140	163	128	146	128	126	113	134	130	197	178
8	161	149	163	129	152	144	128	116	134	128	193	172
9	166	149	137	129	150	132	131	118	138	129	189	169
10	172	158	134	131	139	122	132	119	140	129	183	168
11	168	159	166	131	133	121	134	117	140	135	180	168
12	172	162	159	130	123	116	128	117	143	137	183	169
13	177	163	159	129	120	114	127	118	146	138	188	171
14	172	164	133	127	118	113	124	113	148	138	191	170
15	168	162	132	125	118	113	126	114	154	142	188	169
16	167	161	127	123	118	110	126	116	158	145	190	171
17	166	159	131	124	116	108	122	111	160	147	175	157
18	169	156	172	130	121	113	124	111	161	145	181	169
19	163	153	199	151	120	107	126	115	158	142	179	170
20	163	154	184	149	122	107	127	116	155	142	174	162
21	173	155	180	147	121	108	125	118	163	146	164	151
22	165	150	163	141	122	108	129	122	174	157	159	148
23	150	139	141	131	122	109	129	123	184	172	158	147
24	142	128	134	126	119	109	126	120	175	161	149	138
25	135	124	142	132	123	109	125	118	170	160	144	137
26	139	126	142	136	118	105	125	119	172	164	149	135
27	149	129	148	141	117	105	128	120	173	168	155	141
28	141	123	146	141	117	103	129	121	185	173	150	142
29	138	120	145	139	115	103	130	122	185	173	143	137
30	144	129	141	126	120	103	131	121	188	174	142	131
31	---	---	131	124	---	---	130	121	193	176	---	---
MONTH	177	120	199	123	152	103	134	105	193	121	203	131

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.5	19.5	13.0	12.5	11.5	11.0	11.5	11.5	10.0	10.0	---	---
2	19.5	19.0	13.0	12.5	11.0	10.5	12.0	10.5	10.0	10.0	---	---
3	19.5	19.0	13.0	13.0	10.5	10.5	10.5	10.0	10.0	10.0	---	---
4	19.5	19.0	13.0	12.5	10.5	10.5	10.0	10.0	10.0	9.5	---	---
5	19.5	19.0	13.0	12.5	11.0	10.5	10.0	9.5	10.0	9.5	---	---
6	19.5	19.5	12.5	12.5	12.0	11.0	9.5	9.5	9.5	9.5	---	---
7	20.0	19.5	12.5	12.5	12.0	11.5	9.5	9.0	9.5	9.5	---	---
8	20.0	19.5	12.5	12.0	11.5	11.0	9.0	9.0	9.5	9.5	---	---
9	20.0	19.5	12.5	12.5	11.5	11.0	9.0	9.0	9.5	9.5	---	---
10	19.5	19.0	13.0	12.5	11.5	11.0	9.0	9.0	---	---	---	---
11	19.0	18.5	13.0	12.5	12.0	11.5	9.0	8.5	---	---	---	---
12	18.5	18.5	13.5	13.0	12.0	12.0	8.5	8.5	---	---	---	---
13	18.5	17.5	13.5	13.0	12.0	12.0	8.5	7.5	---	---	---	---
14	18.0	17.5	13.5	13.5	12.0	11.5	7.5	7.0	---	---	13.0	12.0
15	17.5	17.0	13.5	13.0	11.5	11.0	7.0	7.0	---	---	13.0	12.0
16	17.0	16.5	13.0	12.5	11.0	11.0	7.5	7.0	---	---	12.5	12.5
17	16.5	16.0	12.5	12.5	11.0	10.5	8.0	7.5	---	---	12.5	12.0
18	16.0	15.0	13.0	12.5	10.5	10.5	8.5	8.0	---	---	13.0	12.5
19	15.0	14.5	13.5	13.0	10.5	10.0	9.0	8.5	---	---	13.5	13.0
20	14.5	13.5	13.5	13.5	10.0	9.5	9.0	9.0	---	---	13.5	13.0
21	13.5	13.0	14.0	13.5	9.5	9.5	9.0	9.0	---	---	14.0	13.0
22	13.5	13.0	14.0	13.5	9.5	9.5	9.0	9.0	---	---	14.5	13.5
23	13.5	13.0	14.0	14.0	9.5	9.5	9.0	8.5	---	---	15.0	14.0
24	13.5	13.0	14.0	13.5	9.5	9.5	8.5	8.5	---	---	15.5	14.5
25	13.5	13.0	14.0	13.5	9.5	9.5	9.0	8.5	---	---	15.5	15.0
26	13.0	12.5	13.5	13.0	9.5	9.5	10.0	9.0	---	---	16.0	15.0
27	12.5	12.0	13.0	12.5	9.5	9.5	10.5	10.0	---	---	16.0	15.5
28	12.5	12.0	12.5	12.0	10.0	9.5	10.5	10.0	---	---	15.5	15.0
29	12.5	12.0	12.0	11.5	10.0	10.0	10.5	10.0	---	---	15.5	15.0
30	12.0	12.0	11.5	11.0	11.0	10.0	10.0	10.0	---	---	15.0	14.5
31	12.5	12.0	---	---	11.5	11.0	10.0	10.0	---	---	15.0	14.5
MONTH	20.0	12.0	14.0	11.0	12.0	9.5	12.0	7.0	10.0	9.5	16.0	12.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.5	13.5	18.5	17.5	22.0	21.5	20.5	19.5	21.5	20.5	22.0	21.5
2	13.5	13.0	18.0	17.5	22.0	21.0	20.5	19.5	21.5	20.5	22.0	21.5
3	13.5	13.0	18.5	17.5	21.5	20.5	21.0	20.0	21.5	20.5	22.0	21.5
4	14.0	13.5	18.5	17.5	20.5	20.0	21.0	20.5	21.5	20.5	22.5	22.0
5	14.0	13.5	18.5	18.0	20.5	19.5	21.0	20.5	22.0	21.0	23.0	22.0
6	14.0	13.5	19.0	18.0	21.0	20.0	21.5	20.5	22.5	21.5	22.5	22.0
7	14.0	13.5	19.5	18.5	21.5	20.5	22.0	21.0	22.5	21.5	22.0	22.0
8	14.5	13.5	20.0	19.0	22.0	21.0	22.5	21.5	22.0	21.5	22.0	21.5
9	15.0	14.0	20.0	19.5	22.0	21.5	22.5	22.0	22.0	21.0	22.0	21.5
10	15.0	14.5	20.5	20.0	22.5	22.0	22.5	21.5	21.5	21.0	21.5	21.5
11	15.0	14.5	21.0	20.0	22.5	22.0	22.5	21.5	21.0	20.5	21.5	21.0
12	15.5	14.5	21.5	20.5	22.0	21.5	22.0	21.0	21.0	20.5	21.5	21.0
13	15.5	15.0	21.5	20.5	21.5	21.0	22.0	21.0	21.5	20.5	22.0	21.0
14	16.0	15.0	21.5	21.0	21.5	21.0	21.5	21.0	21.5	21.0	21.5	21.0
15	17.0	16.0	22.0	21.5	22.0	21.0	21.5	21.0	21.5	21.5	21.5	21.0
16	17.5	16.5	22.0	21.5	22.0	21.5	21.5	21.0	21.5	21.0	21.5	20.5
17	18.0	17.5	22.5	21.5	22.5	21.5	21.0	20.5	21.0	21.0	21.0	20.5
18	18.0	17.5	23.0	22.0	23.0	22.0	21.0	20.5	21.0	21.0	21.0	20.5
19	18.0	17.5	24.0	22.5	23.5	22.5	21.5	20.5	21.0	21.0	20.5	20.0
20	18.0	17.5	23.5	22.5	23.0	22.5	21.5	20.5	21.0	20.5	20.0	19.5
21	18.0	17.5	22.5	21.5	22.5	22.0	21.5	21.0	21.5	21.0	20.5	19.5
22	18.0	17.0	21.5	20.5	22.0	21.5	22.0	21.0	22.0	21.5	20.5	20.0
23	17.0	17.0	20.5	19.5	21.5	21.5	21.5	21.5	22.0	21.5	21.0	20.0
24	17.0	16.5	19.5	19.0	22.0	21.0	21.5	21.0	21.5	21.0	21.5	20.5
25	17.0	16.5	19.5	19.0	22.0	21.5	21.0	20.5	21.5	21.0	22.0	21.0
26	17.5	16.5	19.5	19.0	22.0	21.5	21.5	20.5	21.5	21.0	21.5	21.0
27	18.0	17.0	20.0	19.5	21.5	21.0	21.5	21.0	22.0	21.0	21.5	21.0
28	17.5	17.5	20.5	20.0	21.0	20.5	21.5	21.0	22.0	21.5	21.0	20.5
29	18.0	17.0	21.0	20.5	20.5	20.0	21.5	21.0	22.0	21.5	20.5	20.0
30	18.0	17.5	21.5	21.0	20.5	20.0	21.5	21.0	22.0	21.5	20.5	20.0
31	---	---	22.0	21.0	---	---	21.5	21.0	21.5	21.5	---	---
MONTH	18.0	13.0	24.0	17.5	23.5	19.5	22.5	19.5	22.5	20.5	23.0	19.5

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	14900	25	1010	14600	16	636	15800	23	974
2	14700	24	934	13900	16	603	15400	22	903
3	14800	22	883	14200	16	614	14900	21	831
4	14500	21	808	14200	16	608	16500	21	936
5	14700	19	771	13800	15	567	21200	40	2290
6	14500	18	709	13400	15	528	39500	85	9160
7	13800	17	631	13200	14	511	41800	113	12700
8	13500	16	580	13100	16	550	40700	112	12300
9	13100	15	523	13000	17	597	38700	119	12500
10	13400	16	570	12900	18	643	42000	172	19600
11	13300	17	610	12800	19	672	50200	247	33700
12	12600	17	575	13100	18	623	59600	290	46900
13	12800	17	581	13100	16	553	80000	245	52900
14	12100	17	550	12900	14	482	82500	163	36200
15	11500	17	523	12800	12	427	80100	135	29200
16	11500	17	520	13200	13	471	78200	107	22600
17	11300	17	509	13500	15	536	75400	98	20000
18	10900	17	486	14600	17	647	72400	93	18100
19	11800	17	525	15400	19	801	69600	79	14800
20	11700	17	525	16800	22	1020	66600	73	13100
21	11400	17	512	17200	26	1220	63900	64	11000
22	11500	17	518	18800	31	1560	64400	65	11400
23	11400	16	510	20600	36	2000	67500	75	13700
24	11400	16	507	20900	42	2390	65800	54	9660
25	12000	16	530	21600	50	2890	62100	52	8650
26	12600	16	557	20000	54	2900	58000	53	8340
27	11500	16	505	18700	42	2150	66500	75	13700
28	11200	16	492	17800	33	1580	81900	119	26400
29	11900	16	521	17800	26	1240	89400	112	27000
30	13000	16	570	17100	24	1100	94000	87	22100
31	14100	16	616	---	---	---	96400	96	24900
TOTAL	393400	---	18661	465000	---	31119	1811000	---	536544
		JANUARY			FEBRUARY			MARCH	
1	94900	130	33200	81900	117	25800	37200	65	6490
2	106000	244	71100	79400	116	24800	36400	65	6390
3	113000	399	122000	78300	107	22600	35600	63	6080
4	103000	418	116000	78200	99	20900	34300	58	5380
5	98300	349	92700	77300	98	20600	32500	58	5120
6	93700	255	64600	76600	93	19200	30200	60	4910
7	86800	214	50100	75500	97	19800	27600	51	3770
8	84300	182	41500	74200	92	18400	25300	57	3890
9	84300	160	36300	72000	80	15600	24200	57	3710
10	84500	157	35800	70300	76	14500	23700	49	3160
11	83800	143	32400	68700	73	13500	23000	42	2580
12	81400	160	35000	67200	87	15800	22400	37	2250
13	80800	150	32700	65400	81	14400	22000	35	2080
14	80900	155	33800	62900	90	15300	21500	34	1980
15	79100	167	35600	59100	91	14500	20500	35	1940
16	76400	166	34300	53900	103	14900	20300	40	2170
17	73800	174	34700	48500	109	14200	20800	37	2110
18	71500	167	32300	43600	113	13300	21900	42	2500
19	70100	162	30700	40800	96	10500	24800	62	4180
20	69400	159	29800	39000	91	9560	25200	74	5030
21	69100	155	28900	37500	92	9270	23300	64	4000
22	76500	161	33400	37200	81	8160	22300	53	3190
23	93100	167	42100	36800	88	8700	21900	44	2600
24	92600	170	42600	35800	95	9140	21700	37	2150
25	93500	166	41800	34800	78	7360	21200	31	1750
26	97500	144	38100	36700	66	6550	20700	28	1560
27	96800	152	39800	36900	62	6220	20700	35	1980
28	95100	134	34500	36700	61	6070	21000	32	1810
29	94600	124	31700	---	---	---	19600	30	1580
30	90400	119	29000	---	---	---	18300	26	1280
31	85200	113	25900	---	---	---	18400	19	932
TOTAL	2700400	---	1382400	1605200	---	399630	758500	---	98552

11447650 SACRAMENTO RIVER AT FREEPORT, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	18100	18	905	11100	22	659	13500	25	927
2	17700	19	904	10600	22	632	13000	24	837
3	17400	19	915	10400	20	572	13000	22	790
4	16900	21	939	10400	20	572	13400	21	762
5	16200	27	1170	10200	21	569	13200	19	689
6	15000	29	1160	10000	21	564	13900	16	608
7	14700	30	1190	9400	21	535	14300	16	634
8	13600	32	1160	9480	21	547	13500	18	662
9	13600	33	1220	9600	22	559	13200	20	719
10	13100	35	1230	9470	22	552	13000	23	791
11	13200	36	1280	9750	15	395	13200	25	906
12	13000	29	1010	9960	13	362	13700	28	1050
13	12900	27	924	10300	13	362	14800	30	1200
14	12600	26	889	11000	13	371	14700	27	1090
15	12000	26	843	10900	12	359	15500	28	1170
16	11500	26	813	10800	13	392	16800	29	1310
17	11200	26	790	10400	15	419	17500	29	1400
18	10800	26	770	9360	17	423	17900	30	1470
19	10800	27	778	9750	19	501	16900	31	1400
20	11200	27	818	10000	22	589	16300	30	1320
21	12900	27	959	10400	25	699	15700	30	1260
22	14800	28	1110	11000	29	858	15800	29	1220
23	14900	28	1130	12400	32	1080	15400	27	1130
24	15000	29	1150	12900	19	653	15100	26	1060
25	14000	29	1100	13900	20	753	15800	25	1070
26	13500	32	1160	15100	23	944	16600	24	1090
27	11900	28	900	15600	27	1130	16500	25	1110
28	10800	24	700	15400	31	1290	16900	26	1190
29	10900	23	677	15200	33	1360	18000	27	1320
30	10600	22	630	14600	29	1130	19600	28	1500
31	---	---	---	14300	27	1040	---	---	---
TOTAL	404800	---	29224	353670	---	20871	456700	---	31685
		JULY			AUGUST			SEPTEMBER	
1	20100	29	1600	20700	38	2130	16500	29	1290
2	20300	31	1680	20700	37	2080	16300	26	1140
3	20300	32	1750	20500	37	2020	16200	23	1010
4	20400	33	1840	20700	36	2000	16100	21	919
5	20700	34	1900	20800	35	1960	16300	21	923
6	20500	30	1670	21000	34	1940	16300	21	942
7	20200	27	1460	21400	33	1920	16200	24	1030
8	19900	24	1260	21000	33	1850	16200	26	1130
9	19700	27	1420	20500	32	1770	15900	29	1240
10	20000	32	1750	20400	31	1720	16000	32	1390
11	20300	35	1920	19100	31	1580	15600	34	1440
12	20700	38	2110	18400	30	1490	14700	31	1230
13	20800	41	2290	17900	30	1450	14200	26	995
14	21000	43	2430	17600	29	1390	13700	22	800
15	21100	40	2260	16600	27	1190	13200	18	642
16	20900	41	2320	16200	26	1120	12100	15	497
17	20900	43	2410	16600	24	1090	12400	13	425
18	21200	44	2540	17000	23	1060	13200	13	465
19	21200	45	2570	16900	22	1000	12800	18	634
20	21200	40	2260	16600	21	939	12800	11	379
21	21500	34	1980	16500	21	910	12900	11	394
22	21500	31	1800	17000	23	1050	12900	13	442
23	21900	35	2070	18300	26	1280	12300	15	476
24	21700	39	2300	19200	29	1520	11800	16	522
25	21700	40	2340	19900	33	1790	11300	17	524
26	21300	40	2290	20000	38	2040	12100	15	498
27	21300	40	2300	19200	43	2230	12600	15	503
28	21300	40	2300	18400	46	2300	12100	15	474
29	21000	41	2330	17600	40	1920	12500	14	482
30	20600	40	2250	16900	36	1640	12800	14	482
31	20800	39	2190	16600	32	1440	---	---	---
TOTAL	646000	---	63590	580200	---	49819	420000	---	23318
YEAR	10594870		2685413						

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°55'39", long 122°50'33", in SE 1/4 SE 1/4 sec.34, T.13 N., R.9 W., Lake County, Hydrologic Unit 18020116, on left bank 1.6 mi downstream from Widow Creek and 3.5 mi south of Kelseyville.

DRAINAGE AREA.--36.6 mi^2.

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1285: 1947-48(M), 1950-52(P). WSP 1931: Drainage area. WDR CA-96-4: 1956-93(P).

GAGE.--Water-stage recorder. Datum of gage is 1,475.44 ft above sea level. Prior to July 16, 1955, at site 600 ft upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Some minor diversions upstream from station. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,600 ft^3/s, March 9, 1995, gage height, 13.80 ft; minimum daily, 0.13 ft^3/s, Sept. 6-11, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s, or maximum:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	unknown	unknown	unknown	Jan. 22	1430	4,070	11.06
Jan. 1	unknown	8,450	13.72	Jan. 26	0215	3,450	10.43

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	e20	e52	e3500	211	46	30	19	9.9	6.0	3.4	3.7
2	5.0	e6.0	e51	e680	186	76	29	18	9.9	5.8	3.3	3.5
3	4.9	e6.0	e50	656	168	53	28	17	11	5.4	3.3	3.5
4	4.9	e6.2	e150	440	170	48	28	17	18	5.1	3.3	3.5
5	4.8	e6.5	e360	331	147	46	27	16	13	4.8	3.2	3.4
6	4.8	e6.6	e230	266	134	44	27	15	12	4.7	3.1	3.3
7	4.8	e6.8	e145	225	125	43	27	15	11	4.7	3.0	3.4
8	4.7	e6.9	e250	193	117	41	26	15	9.9	4.6	2.9	3.3
9	4.6	e7.0	e450	169	109	40	26	14	9.8	4.5	2.9	3.3
10	4.6	e7.3	e850	150	105	39	26	14	11	4.6	3.2	3.3
11	4.7	e7.2	e580	136	97	37	25	14	9.5	4.7	3.7	3.5
12	4.8	e7.2	e440	125	90	36	25	14	9.0	4.5	3.6	3.6
13	4.9	e7.2	e290	113	85	36	24	13	8.9	4.3	3.4	3.5
14	5.0	e7.2	e220	101	80	35	23	13	8.4	4.2	3.2	4.0
15	5.0	e7.3	e185	102	76	34	22	13	8.0	4.1	3.1	5.1
16	5.0	e7.3	e165	96	73	85	22	13	7.6	3.9	3.1	4.4
17	5.0	e7.3	e154	88	74	105	21	12	7.4	4.0	3.1	4.2
18	5.0	e65	e139	80	68	58	23	12	7.2	4.0	3.5	4.2
19	5.0	e135	e122	76	64	49	36	11	6.7	4.0	3.6	4.1
20	5.0	e98	e120	84	62	45	26	11	6.5	3.8	6.5	3.9
21	5.0	e69	e150	151	59	42	25	11	6.4	3.6	5.6	3.7
22	5.0	e88	e205	1390	57	40	24	11	6.4	3.6	4.6	3.7
23	e5.0	e75	e200	597	55	39	25	15	6.4	3.6	4.2	3.6
24	e5.1	e60	e185	403	52	36	22	14	6.2	3.5	4.3	3.6
25	e5.4	e51	e165	1760	51	34	21	13	6.0	3.4	4.4	3.7
26	e5.3	e44	e230	1610	50	33	20	12	5.6	3.4	4.3	3.8
27	e5.2	e42	e310	619	50	32	19	14	5.5	3.4	4.1	4.0
28	e5.2	e40	e740	438	48	31	19	12	5.7	3.3	4.1	3.9
29	e8.0	e39	e700	334	---	30	20	11	6.0	3.3	4.0	3.7
30	e11	e38	e1400	277	---	30	19	11	6.0	3.4	3.9	3.7
31	e9.2	---	e1650	240	---	31	---	10	---	3.4	3.8	---
TOTAL	166.9	974.0	10938	15430	2663	1374	735	420	254.9	129.6	115.7	112.1
MEAN	5.38	32.5	353	498	95.1	44.3	24.5	13.5	8.50	4.18	3.73	3.74
MAX	11	135	1650	3500	211	105	36	19	18	6.0	6.5	5.1
MIN	4.6	6.0	50	76	48	30	19	10	5.5	3.3	2.9	3.3
AC-FT	331	1930	21700	30610	5280	2730	1460	833	506	257	229	222

e Estimated.

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.5	45.4	129	209	200	151	77.1	30.1	12.3	5.50	3.46	3.70
MAX	154	334	688	929	919	640	429	163	31.8	15.4	8.92	16.3
(WY)	1963	1974	1956	1995	1986	1983	1982	1983	1983	1983	1983	1957
MIN	1.22	3.55	4.19	4.83	8.97	11.4	5.67	6.12	1.98	.46	.20	.16
(WY)	1992	1991	1991	1991	1977	1977	1977	1977	1977	1977	1977	1992

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1947 - 1997	
ANNUAL TOTAL	35508.2		33313.2			
ANNUAL MEAN	97.0		91.3		72.6	
HIGHEST ANNUAL MEAN					206	1983
LOWEST ANNUAL MEAN					4.78	1977
HIGHEST DAILY MEAN	1870	Feb 4	3500	Jan 1	6020	Feb 17 1986
LOWEST DAILY MEAN	4.6	Oct 9	2.9	Aug 8	.13	Sep 6 1992
ANNUAL SEVEN-DAY MINIMUM	4.7	Oct 5	3.1	Aug 4	.13	Sep 5 1992
INSTANTANEOUS PEAK FLOW			8450	Jan 1	8600	Mar 9 1995
INSTANTANEOUS PEAK STAGE			13.72	Jan 1	13.80	Mar 9 1995
ANNUAL RUNOFF (AC-FT)	70430		66080		52610	
10 PERCENT EXCEEDS	254		189		150	
50 PERCENT EXCEEDS	25		13		12	
90 PERCENT EXCEEDS	4.9		3.6		2.5	

11450000 CLEAR LAKE AT LAKEPORT, CA

LOCATION.--Lat 39°02'21", long 122°54'44", in NE 1/4 NE 1/4 sec.25, T.14 N., R.10 W., Lake County, Hydrologic Unit 18020116, on pier behind 410 Esplanade Street in Lakeport.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--1874-1900 (incomplete), January 1913 to April 1982, October 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,318.26 ft above sea level (California State Land Commission Benchmark). Prior to July 8, 1947, nonrecording gage, and July 8, 1947, to Mar. 17, 1949, at municipal wharf at foot of Third Street in Lakeport at datum 0.33 ft higher. Mar. 18, 1949, to Sept. 30, 1967, at private pier at foot of Fourth Street at datum 0.33 ft higher. Gage relocated at same datum, Apr. 20, 1982, and published as "at Clearlake" for 1982-84.

REMARKS.--This natural lake is regulated by gates on a dam at outlet, completed in 1915. Capacity between gage heights 0.00 and 7.56 ft, limits stipulated by court decree of 1920, about 319,000 acre-ft. Water is released down natural channel of Cache Creek (station 11451000), from which it is diverted for irrigation. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 11.34 ft, Feb. 21, 1986, minimum observed, -3.50 ft, Sept. 24-27, 1920.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 4, 1983, reached a stage of 11.24 ft, present datum, from floodmarks.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.72	2.11	2.16	6.69	8.33	6.54	6.89	6.59	5.77	4.57	3.46	2.36
2	2.70	2.11	2.19	7.51	8.25	6.51	6.86	6.57	5.75	4.55	3.42	2.34
3	2.68	2.10	2.19	7.81	8.17	6.52	6.83	6.53	5.71	4.52	3.38	2.31
4	2.66	2.08	2.22	7.92	8.09	6.54	6.82	6.52	5.71	4.48	3.34	2.29
5	e2.65	2.07	2.36	7.91	8.00	6.54	6.81	6.49	5.65	4.44	3.30	2.26
6	e2.63	2.06	2.42	7.84	7.90	6.55	6.79	6.46	5.63	4.42	3.27	2.24
7	e2.61	2.07	2.45	7.76	7.80	6.55	6.78	6.45	5.59	4.39	3.25	2.22
8	e2.58	2.06	2.47	7.68	7.70	6.56	6.75	6.43	5.57	4.35	3.21	2.20
9	e2.55	2.07	2.58	7.59	7.61	6.57	6.74	6.42	5.55	4.29	3.15	2.16
10	e2.53	2.06	2.86	7.51	7.52	6.58	6.74	6.40	5.51	4.27	3.11	2.12
11	2.50	2.06	3.05	7.42	7.42	6.58	6.73	6.38	5.45	4.23	3.08	2.10
12	2.46	2.05	3.18	7.34	7.31	6.58	6.73	6.35	5.37	4.20	3.04	2.08
13	2.43	2.03	3.23	7.24	7.23	6.59	6.71	6.32	5.37	4.17	3.01	2.04
14	2.41	2.02	3.29	7.16	7.15	6.60	6.73	6.28	5.33	4.13	2.97	2.02
15	2.36	2.00	3.32	7.04	7.06	6.61	6.72	6.26	5.30	4.11	2.93	2.00
16	2.34	2.04	3.35	6.93	6.96	6.73	6.72	6.24	5.26	4.07	2.90	1.98
17	2.33	2.06	3.37	6.83	6.86	6.78	6.71	6.22	5.22	4.01	2.85	1.94
18	2.28	2.10	3.37	6.74	6.78	6.80	6.71	6.18	5.19	3.99	2.81	1.92
19	2.24	2.14	3.38	6.66	6.70	6.82	6.72	6.14	5.14	3.96	2.77	1.90
20	2.24	2.18	3.38	6.58	6.65	6.84	6.72	6.09	5.09	3.92	2.79	1.88
21	2.22	2.18	3.47	6.53	6.64	6.85	6.71	6.06	5.02	3.89	2.77	1.85
22	2.20	2.22	3.54	6.68	6.64	6.87	6.71	6.02	4.98	3.85	2.72	1.84
23	2.18	2.23	3.64	6.97	6.65	6.88	6.67	6.01	4.93	3.82	2.68	1.82
24	2.14	2.24	3.68	7.04	6.63	6.89	6.69	5.97	4.90	3.78	2.65	1.80
25	2.09	2.25	3.72	7.48	6.62	6.90	6.70	5.95	4.85	3.75	2.61	1.76
26	2.14	2.23	3.80	8.08	6.61	6.88	6.68	5.93	4.81	3.71	2.56	1.70
27	2.11	2.23	3.98	8.37	6.60	6.88	6.65	5.92	4.76	3.67	2.52	1.70
28	2.09	2.18	4.13	8.49	6.59	6.90	6.62	5.90	4.69	3.63	2.49	1.68
29	2.12	2.20	4.36	8.51	---	6.89	e6.60	5.88	4.66	3.60	2.46	1.66
30	2.11	2.20	4.76	8.47	---	6.87	6.59	5.84	4.61	3.55	2.42	1.63
31	2.12	---	5.52	8.41	---	6.85	---	5.81	---	3.51	2.38	---
MEAN	2.37	2.12	3.27	7.46	7.23	6.71	6.73	6.21	5.25	4.06	2.91	1.99
MAX	2.72	2.25	5.52	8.51	8.33	6.90	6.89	6.59	5.77	4.57	3.46	2.36
MIN	2.09	2.00	2.16	6.53	6.59	6.51	6.59	5.81	4.61	3.51	2.38	1.63

CAL YR 1996 MEAN 5.00 MAX 8.04 MIN 2.00
WTR YR 1997 MEAN 4.68 MAX 8.51 MIN 1.63

e Estimated.

11451000 CACHE CREEK NEAR LOWER LAKE, CA

LOCATION.--Lat 38°55'27", long 122°33'53", in sec.6, T.12 N., R.6 W., Lake County, Hydrologic Unit 18020116, on left bank 500 ft downstream from Clear Lake Dam, 1.9 mi downstream from Copsey Creek, and 2.5 mi northeast of Lower Lake.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder and rain gage (station 385525122335501). Datum of gage is 1,279.64 ft above sea level. Prior to Oct. 2, 1987, at datum 1.00 ft higher.

REMARKS.--Records fair except for estimated discharges, which are poor. Flow completely regulated by Clear Lake (station 11450000) 500 ft upstream. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,730 ft^3/s, Jan. 1, 1997, gage height, 10.88 ft, present datum; no flow Nov. 8-20, 1977, Apr. 5, 6, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	e4.6	e5.6	4530	3850	1160	86	333	433	426	403	294
2	210	e4.8	e5.1	3040	4030	754	184	361	454	395	404	261
3	207	e4.8	e4.8	3050	3930	299	184	361	449	392	404	260
4	206	e4.5	e4.3	3020	3980	17	184	360	443	390	404	259
5	207	e4.5	e4.1	3020	4070	17	183	361	442	388	403	260
6	206	e5.0	e5.0	2900	4000	17	183	367	440	391	399	258
7	207	e5.3	e6.0	2900	3940	17	183	366	438	399	397	259
8	206	e5.5	e7.0	2320	3470	17	183	370	455	399	398	262
9	206	e5.3	e5.0	2630	3420	18	185	371	463	400	404	262
10	227	e5.0	e7.0	2570	3410	18	185	376	467	402	408	262
11	231	e5.3	e7.0	2580	3280	17	185	390	468	404	405	258
12	228	e5.7	e7.0	2600	3250	17	185	395	470	402	403	255
13	229	e5.9	e7.0	2730	3230	17	185	394	468	402	401	255
14	214	e5.9	e7.0	2610	3210	17	187	394	450	400	402	254
15	195	e5.9	e7.0	2760	3190	17	187	392	461	400	400	253
16	193	e5.8	e7.0	2460	3150	17	187	391	458	402	411	250
17	193	e5.9	e7.0	2420	3170	17	187	389	459	405	426	248
18	190	e5.9	e7.0	2350	2970	17	190	389	463	398	408	244
19	201	e6.1	e7.0	2300	2220	17	193	389	463	394	410	241
20	197	e6.0	e7.0	2270	e1300	17	192	386	464	390	409	240
21	197	e6.0	e7.0	2360	373	17	192	390	466	390	409	239
22	197	e6.2	e7.0	3430	312	17	191	389	467	390	410	237
23	172	e6.2	e7.0	2920	123	17	193	388	462	392	410	235
24	75	e6.3	e7.0	2940	37	17	191	388	460	392	407	233
25	e9.0	e6.3	e7.0	4670	40	17	190	384	460	391	408	233
26	e6.8	e6.4	e7.0	4170	43	17	197	385	462	393	389	236
27	e5.9	e6.3	e7.0	3770	473	17	201	385	463	405	339	236
28	e5.0	e6.6	e7.0	3850	1160	17	196	383	470	405	339	235
29	e4.6	e6.2	e1670	3820	---	17	194	382	476	403	339	234
30	e4.5	e5.7	e2300	3760	---	17	194	380	477	405	340	234
31	e4.6	---	3770	3710	---	17	---	378	---	405	343	---
TOTAL	4858.4	169.9	7919.9	94460	69631	2691	5557	11767	13771	12350	12232	7487
MEAN	157	5.66	255	3047	2487	86.8	185	380	459	398	395	250
MAX	231	6.6	3770	4670	4070	1160	201	395	477	426	426	294
MIN	4.5	4.5	4.1	2270	37	17	86	333	433	388	339	233
AC-FT	9640	337	15710	187400	138100	5340	11020	23340	27310	24500	24260	14850
a	1.18	2.57	12.72	13.03	0.29	1.17	0.17	0.35	0.40	0.00	0.76	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.1	16.6	117	639	788	765	541	313	368	392	312	163
MAX	191	683	2584	3047	3604	4919	3538	951	642	627	500	325
(WY)	1996	1984	1984	1997	1958	1983	1958	1983	1946	1996	1946	1995
MIN	.40	.17	.14	.18	.17	.32	.42	.40	.29	.41	.71	.55
(WY)	1978	1978	1991	1991	1991	1955	1990	1990	1991	1977	1977	1977

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1945 - 1997	
ANNUAL TOTAL	240522.07		242894.2			
ANNUAL MEAN	657		665		368	
HIGHEST ANNUAL MEAN					1342	1983
LOWEST ANNUAL MEAN					.67	1990
HIGHEST DAILY MEAN	3770	Dec 31	4670	Jan 25	5280	Feb 24 1958
LOWEST DAILY MEAN	.83	Jan 11	4.1	Dec 5	.00	Nov 8 1977
ANNUAL SEVEN-DAY MINIMUM	1.0	Jan 7	4.6	Oct 30	.00	Nov 8 1977
INSTANTANEOUS PEAK FLOW			9730	Jan 1	9730	Jan 1 1997
INSTANTANEOUS PEAK STAGE			10.88	Jan 1	10.88	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	477100		481800		266900	
10 PERCENT EXCEEDS	2430		2820		608	
50 PERCENT EXCEEDS	264		312		53	
90 PERCENT EXCEEDS	5.5		6.2		1.0	

e Estimated.

a Precipitation, in inches.

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°09'56", long 122°37'08", in SE 1/4 NW 1/4 sec.10, T.15 N., R.7 W., Lake County, Hydrologic Unit 18020116, on right bank 0.5 mi upstream from Spanish Creek, 0.9 mi upstream from Hough Springs, and 10 mi northeast of Clearlake Oaks.

DRAINAGE AREA.--60.2 mi^2.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,534.13 ft above sea level. Prior to Jan. 13, 1980, at datum 2.0 ft higher. Recording rain gage (station 391056122420801) 4.7 mi northwest of gage. Elevation of rain gage is 2,050 ft above sea level, from topographic map.

REMARKS.--Records fair except for flows from August 3 to September 30, which are poor. No regulation or diversion upstream from station. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft^3/s, Jan. 1, 1997, gage height, 14.14 ft, from rating curve extended above 3,900 ft^3/s on basis of slope-area measurement at gage height 11.23 ft; no flow at times in 1972, 1976-77, 1987-88, 1990-92, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s, or maximum.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 5	0115	2,310	8.02	Jan. 22	1500	3,440	9.72
Dec. 10	0630	4,420	9.74	Jan. 25	2315	6,370	11.51
Jan. 1	0030	13,200	14.14				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	6.7	45	7300	309	67	61	44	24	11	4.6	4.0
2	3.4	5.0	40	2560	249	105	60	41	23	11	4.6	3.9
3	3.2	5.3	33	1100	221	70	60	36	25	10	4.3	3.7
4	3.3	5.0	150	595	210	56	60	35	42	9.8	3.5	3.7
5	3.3	4.9	838	408	186	54	58	34	26	9.4	4.2	3.6
6	3.4	5.0	257	274	168	57	56	33	22	9.0	4.2	3.4
7	3.3	4.5	198	222	161	65	55	32	20	8.9	4.0	3.4
8	3.1	4.6	254	199	150	63	53	31	20	8.5	3.8	3.3
9	3.1	4.6	1020	181	143	59	52	30	20	8.1	3.6	3.3
10	3.0	4.4	2050	168	138	57	52	30	20	8.2	4.0	3.4
11	3.1	4.4	985	170	129	59	50	29	18	8.1	4.4	3.6
12	3.3	4.3	647	164	121	47	49	28	18	7.8	4.3	3.7
13	3.4	5.2	371	152	114	39	48	27	17	7.6	4.3	3.6
14	3.3	6.0	235	142	109	47	47	26	17	7.3	4.2	4.0
15	3.2	6.3	173	142	104	55	46	26	16	7.0	4.2	4.5
16	3.3	7.4	137	134	101	114	45	26	15	6.8	3.9	4.0
17	3.5	19	115	129	103	99	44	29	15	6.4	4.2	3.9
18	4.3	111	96	124	93	77	51	28	14	6.4	4.2	4.2
19	4.6	317	81	120	90	84	80	27	13	6.3	3.7	3.8
20	4.4	145	75	122	86	89	60	26	13	5.9	4.4	3.6
21	3.7	79	200	153	82	83	56	26	13	5.7	4.0	3.5
22	3.5	151	297	1090	80	75	55	25	12	5.5	3.8	3.5
23	3.6	107	259	754	76	71	62	33	12	5.4	3.9	3.4
24	3.6	66	189	622	73	74	55	30	12	5.4	4.0	3.3
25	3.6	49	160	2860	72	74	52	27	11	5.4	3.7	3.2
26	3.6	40	609	2840	72	73	50	27	11	5.1	3.5	3.2
27	3.3	35	1230	1310	72	72	49	29	11	4.9	3.8	3.1
28	3.6	31	1150	919	69	69	48	26	11	4.9	3.8	2.9
29	9.7	28	2250	732	---	68	47	26	11	4.7	3.8	3.0
30	12	27	2940	569	---	67	46	24	11	4.7	4.2	3.0
31	8.2	---	5790	465	---	65	---	23	---	4.7	4.3	---
TOTAL	127.2	1288.6	22874	26720	3581	2154	1607	914	513	219.9	125.4	106.7
MEAN	4.10	43.0	738	862	128	69.5	53.6	29.5	17.1	7.09	4.05	3.56
MAX	12	317	5790	7300	309	114	80	44	42	11	4.6	4.5
MIN	3.0	4.3	33	120	69	39	44	23	11	4.7	3.5	2.9
AC-FT	252	2560	45370	53000	7100	4270	3190	1810	1020	436	249	212
a	1.35	5.16	24.48	12.71	0.50	2.85	0.96	0.38	0.75	0.00	0.77	0.11

a Precipitation, in inches.

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.81	54.5	142	310	297	283	115	44.4	13.4	3.88	1.23	1.03
MAX	12.4	405	738	1750	1287	1258	631	242	39.4	12.7	5.87	4.09
(WY)	1980	1982	1997	1995	1986	1995	1982	1995	1995	1983	1983	1983
MIN	.19	1.11	1.17	4.74	9.59	9.88	5.13	3.93	1.69	.19	.000	.000
(WY)	1992	1977	1977	1991	1991	1977	1977	1977	1977	1977	1977	1994

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1972 - 1997	
ANNUAL TOTAL	74454.2		60230.8			
ANNUAL MEAN	203		165		105	
HIGHEST ANNUAL MEAN					335	1995
LOWEST ANNUAL MEAN					3.67	1977
HIGHEST DAILY MEAN	5790	Dec 31	7300	Jan 1	8340	Feb 17 1986
LOWEST DAILY MEAN	1.2	Aug 14	2.9	Sep 28	.00	Aug 27 1972
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 11	3.1	Sep 24	.00	Aug 27 1972
INSTANTANEOUS PEAK FLOW			13200	Jan 1	13200	Jan 1 1997
INSTANTANEOUS PEAK STAGE			14.14	Jan 1	14.14	Jan 1 1997
ANNUAL RUNOFF (AC-FT)	147700		119500		75990	
10 PERCENT EXCEEDS	585		227		248	
50 PERCENT EXCEEDS	40		27		10	
90 PERCENT EXCEEDS	2.6		3.6		.45	

11451300 NORTH FORK CACHE CREEK NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°04'50", long 122°32'07", in SE 1/4 SW 1/4 sec.4, T.14 N., R.6 W., Lake County, Hydrologic Unit 18020116, on right bank 2,500 ft downstream from Indian Valley Dam and 8 mi northeast of Clearlake Oaks.

DRAINAGE AREA.--121 mi^2.

PERIOD OF RECORD.--October 1983 to September 1985 (operated as a low-flow station only), October 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above sea level, from topographic map. Recording rain gage (station 390500122321601) located on top of Indian Valley Dam.

REMARKS.--Records good. Flow completely regulated by Indian Valley Reservoir, capacity 300,000 acre-ft. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,280 ft^3/s, Jan. 2, 1997, gage height, 10.62 ft; minimum daily, 0.37 ft^3/s, Oct.15, 1994.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 26, 1983, reached a stage of 12.74 ft, present datum, discharge about 9,500 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	10	11	1180	2140	13	202	274	200	313	208	137
2	4.5	11	11	5350	2080	13	120	223	189	316	196	137
3	4.5	11	11	5790	1260	67	161	258	260	353	166	128
4	4.7	11	11	5620	414	153	189	281	265	389	139	97
5	4.8	11	12	5420	400	153	190	262	226	373	163	78
6	4.6	11	11	5040	406	152	209	246	180	362	179	78
7	4.7	11	9.9	4500	403	153	277	256	178	358	192	78
8	9.5	11	11	3520	403	152	281	267	229	367	217	78
9	6.1	11	11	1690	401	147	310	297	297	396	224	78
10	6.2	12	12	497	399	151	364	365	335	395	203	78
11	6.3	12	11	450	325	148	436	385	348	395	187	62
12	6.3	12	11	346	193	194	513	365	369	381	181	94
13	6.1	12	11	269	80	269	555	379	389	363	170	94
14	6.1	12	11	100	11	325	554	399	365	386	161	94
15	6.3	9.9	11	7.9	13	344	555	399	331	427	161	93
16	6.8	11	11	7.8	13	365	485	366	351	436	161	93
17	6.9	12	11	7.6	13	311	561	335	373	407	157	93
18	6.9	12	11	7.8	14	242	582	324	373	361	153	93
19	6.8	29	11	8.1	14	326	539	374	387	388	132	93
20	6.7	125	11	8.2	14	358	446	450	409	425	113	94
21	7.4	148	11	8.2	14	330	393	469	390	400	101	94
22	8.1	148	12	205	14	303	385	468	362	349	51	94
23	8.8	148	11	1300	14	328	351	403	344	328	13	95
24	9.3	148	11	2580	14	351	300	331	350	316	52	95
25	9.6	66	11	409	13	328	278	314	395	324	116	95
26	9.6	9.9	12	17	17	306	324	315	381	324	102	95
27	9.7	10	12	17	14	306	341	290	381	299	65	94
28	9.9	10	12	564	13	334	316	264	358	282	65	95
29	9.9	10	14	2410	---	329	337	270	345	266	64	95
30	10	10	15	2410	---	301	380	312	301	251	64	95
31	10	---	20	2190	---	287	---	295	---	232	103	---
TOTAL	221.7	1064.8	361.9	51929.6	9109	7539	10934	10236	9661	10962	4259	2817
MEAN	7.15	35.5	11.7	1675	325	243	364	330	322	354	137	93.9
MAX	10	148	20	5790	2140	365	582	469	409	436	224	137
MIN	4.5	9.9	9.9	7.6	11	13	120	223	178	232	13	62
AC-FT	440	2110	718	103000	18070	14950	21690	20300	19160	21740	8450	5590
a	1.24	2.26	9.08	7.12	0.21	1.16	0.21	0.27	0.33	0.00	0.70	0.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.1	11.5	11.8	185	180	153	188	217	228	197	128	72.3
MAX	17.3	35.5	28.3	1675	1038	849	557	717	576	370	342	348
(WY)	1995	1997	1987	1997	1996	1986	1987	1987	1987	1988	1996	1996
MIN	6.65	6.96	7.21	7.02	4.63	1.90	8.26	6.98	8.10	8.16	8.17	9.10
(WY)	1994	1995	1994	1994	1994	1994	1993	1993	1993	1993	1990	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1986 - 1997	
ANNUAL TOTAL	84969.3		119095.0			
ANNUAL MEAN	232		326		131	
HIGHEST ANNUAL MEAN					326	1997
LOWEST ANNUAL MEAN					8.54	1990
HIGHEST DAILY MEAN	1900	Feb 22	5790	Jan 3	5790	Jan 3 1997
LOWEST DAILY MEAN	4.5	Oct 2	4.5	Oct 2	.37	Oct 15 1994
ANNUAL SEVEN-DAY MINIMUM	4.6	Oct 1	4.6	Oct 1	1.8	Mar 9 1994
INSTANTANEOUS PEAK FLOW			6280	Jan 2	6280	Jan 2 1997
INSTANTANEOUS PEAK STAGE			10.62	Jan 2	10.62	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	168500		236200		95190	
10 PERCENT EXCEEDS	803		418		374	
50 PERCENT EXCEEDS	15		170		11	
90 PERCENT EXCEEDS	9.3		9.9		7.1	

a Precipitation, in inches.

11451800 CACHE CREEK AT RUMSEY, CA

LOCATION.--Lat 38°53'26", long 122°14'14", in Canada de Capay Grant, Yolo County, Hydrologic Unit 18020110, midstream on Arbuckle Bridge at Rumsey.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--Water years 1976, 1996 to current year.
CHEMICAL DATA: February 1996 to current year.
SEDIMENT DATA: December 1975 to September 1976, February 1996 to current year.

REMARKS.--Records of sediment discharge from December 1975 to September 1976 were obtained from the California Department of Water Resources; sediment data was discontinued in September 1976. DWR has provided discharge data from December 1975 to current year. This station replaced former station 11451760 (Cache Creek above Rumsey) in September 1976 and was reestablished February 1996 for NAWQA water-quality and sediment sampling purposes.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
22...	1230	210	350	8.3	13.5	759	11.4	110	24	19
NOV										
18...	1500	63	1040	8.6	13.5	752	9.8	95	31	41
DEC										
13...	1240	301	435	8.5	12.0	760	11.0	103	21	25
JAN										
15...	1100	2580	313	8.5	7.0	754	12.0	100	24	18
FEB										
19...	1050	3060	325	8.4	10.5	758	11.2	101	22	19
MAR										
19...	1120	344	422	8.5	14.5	764	10.8	106	22	26
APR										
21...	1030	511	318	8.5	16.5	754	9.6	100	20	18
MAY										
27...	1350	566	284	8.5	21.5	756	9.3	106	18	16
JUN										
24...	1100	649	261	8.5	20.5	751	10.0	113	19	15
JUL										
22...	1030	624	258	8.4	22.0	752	9.2	107	19	15
AUG										
20...	1130	404	284	8.2	22.0	752	8.9	103	20	16
SEP										
16...	1150	258	295	8.6	19.0	752	10.2	112	21	17

11451800 CACHE CREEK AT RUMSEY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
22...	19	23	2.2	150	9.4	17	.10	1.1	196	186
NOV										
18...	120	51	5.3	250	36	160	.20	3.7	572	558
DEC										
13...	35	33	2.0	110	25	40	.10	16	234	252
JAN										
15...	14	18	1.9	150	12	10	.20	3.0	181	172
FEB										
19...	15	19	2.0	140	15	10	.20	7.2	183	179
MAR										
19...	26	26	1.6	160	29	22	.10	12	238	239
APR										
21...	16	21	1.3	120	14	14	<.10	8.9	182	173
MAY										
27...	13	21	1.5	87	9.8	11	.10	5.9	163	150
JUN										
24...	10	17	1.5	81	7.4	7.6	.11	5.6	148	139
JUL										
22...	10	16	1.4	100	7.2	7.2	<.10	6.0	148	137
AUG										
20...	13	19	1.9	120	7.6	11	.11	3.9	162	150
SEP										
16...	15	20	1.9	110	6.5	11	.13	5.5	164	159

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
22...	.27	.010	.060	<.015	.70	.40	.070	.010	.020	6.0
NOV										
18...	.78	.040	.580	.040	.30	.20	.040	<.010	<.010	7.0
DEC										
13...	.32	.030	.310	.060	.30	.20	.060	.020	.030	7.0
JAN										
15...	.25	.010	.080	.040	.60	.30	.140	.030	.010	7.0
FEB										
19...	.25	.030	.110	<.015	.40	<.20	.070	<.010	<.010	7.0
MAR										
19...	.32	<.010	.070	<.015	<.20	<.20	<.010	<.010	<.010	5.0
APR										
21...	.25	<.010	.080	<.015	.30	<.20	.040	<.010	.010	5.8
MAY										
27...	.22	<.010	<.050	<.015	.35	<.20	.035	<.010	<.010	5.8
JUN										
24...	.20	<.010	.066	<.015	.58	.20	.075	<.010	<.010	5.1
JUL										
22...	.20	.018	.196	<.015	.53	.28	.071	.016	.022	5.8
AUG										
20...	.22	.019	.199	<.015	.59	.28	.068	.015	.022	5.7
SEP										
16...	.22	.010	.141	<.015	.51	<.20	.078	.034	.046	6.2

11451800 CACHE CREEK AT RUMSEY, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT										
22...	<1.0	2	78	<1.0	<1.0	2.0	<1.0	<1.0	15	<1.0
NOV										
18...	<1.0	1	118	<1.0	<1.0	2.0	<1.0	2.0	4.0	<1.0
DEC										
13...	<1.0	<1	56	<1.0	<1.0	3.0	<1.0	<1.0	8.0	<1.0
JAN										
15...	<1.0	<1	61	<1.0	<1.0	2.0	<1.0	1.0	7.0	<1.0
FEB										
19...	<1.0	1	62	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	<1.0
MAR										
19...	<1.0	1	55	<1.0	<1.0	2.0	<1.0	<1.0	<3.0	<1.0
APR										
21...	<1.0	2	51	<1.0	<1.0	2.5	<1.0	1.5	<3.0	<1.0
MAY										
27...	<1.0	2	54	<1.0	<1.0	2.6	<1.0	1.0	<3.0	<1.0
JUN										
24...	<1.0	2	55	<1.0	<1.0	1.4	<1.0	1.5	5.4	<1.0
JUL										
22...	<1.0	2	52	<1.0	<1.0	2.8	<1.0	1.3	7.4	<1.0
AUG										
20...	<1.0	2	65	<1.0	<1.0	1.2	<1.0	1.0	19	<1.0
SEP										
16...	<1.0	3	62	<1.0	<1.0	1.8	<1.0	<1.0	11	<1.0

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
OCT									
22...	2.0	<1.0	2.0	<1	<1.0	<1.0	<1.0	3.8	2.7
NOV									
18...	7.0	<1.0	2.0	<1	<1.0	<1.0	<1.0	2.3	.30
DEC									
13...	3.0	<1.0	3.0	<1	<1.0	<1.0	<1.0	3.6	.30
JAN									
15...	4.0	<1.0	3.0	<1	<1.0	1.0	<1.0	3.3	.80
FEB									
19...	3.0	<1.0	2.0	<1	<1.0	1.0	<1.0	2.9	.60
MAR									
19...	2.0	<1.0	2.0	<1	<1.0	--	<1.0	2.2	.20
APR									
21...	1.5	<1.0	1.9	<1	<1.0	<1.0	<1.0	2.5	.50
MAY									
27...	1.5	<1.0	1.6	<1	<1.0	1.0	<1.0	2.7	.80
JUN									
24...	1.1	<1.0	1.4	<1	<1.0	<1.0	<1.0	3.0	.70
JUL									
22...	1.6	<1.0	2.0	<1	<1.0	1.6	<1.0	3.1	.70
AUG									
20...	1.6	<1.0	<1.0	<1	<1.0	<1.0	<1.0	1.1	.60
SEP									
16...	1.3	<1.0	1.4	<1	<1.0	<1.0	<1.0	3.2	.40

11451800 CACHE CREEK AT RUMSEY, CA—Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT					
22...N	1230	210	13.5	19	11
NOV					
18...N	1500	63	13.5	14	2.4
DEC					
13...N	1240	301	12.0	54	44
JAN					
15...N	1100	2580	7.0	155	1080
FEB					
19...N	1050	3060	10.5	91	751
MAR					
19...N	1120	344	14.5	25	23
APR					
21...N	1030	511	16.5	37	51
MAY					
27...N	1350	566	21.5	23	35
JUN					
24...N	1100	649	20.5	35	61
JUL					
22...N	1030	624	22.0	25	42
AUG					
20...N	1130	404	22.0	25	27
SEP					
16...N	1150	258	19.0	18	13

11452500 CACHE CREEK AT YOLO, CA

LOCATION.--Lat 38°43'38", long 121°48'22", in Rio Jesus Maria Grant, Yolo County, Hydrologic Unit 18020129, on left bank 35 ft upstream from Interstate 5 highway bridge, 0.5 mi south of Yolo, and 7.3 mi downstream from Moore Dam.

DRAINAGE AREA.--1,139 mi^2.

PERIOD OF RECORD.--January 1903 to current year. Records for water year 1903 incomplete; yearly estimate published in WSP 1315-A.
WATER TEMPERATURE: Water years 1959-65, November 1966 to February 1967.
SEDIMENT DATA: Water years 1959-65, November 1966 to February 1967 (daily record), 1986 (periodic record).

REVISED RECORDS.--WSP 1315-A: 1914(M). WSP 1345: 1906. WSP 1445: 1955. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level. See WSP 2131 for history of changes prior to Apr. 25, 1969. Apr. 25, 1969 to July 1976, at site 765 ft upstream at same datum.

REMARKS.--Records good. Some regulation by Clear Lake (station 11450000) beginning in 1915 and Indian Valley Reservoir beginning in 1974, capacity, 300,000 acre-ft. Diversions for irrigation of about 30,000 acres between Capay and Yolo, from data furnished by Clear Lake Water Co. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,400 ft^3/s, Feb. 25, 1958, gage height, 85.35 ft, present datum; maximum stage observed, 86.4 ft (corrected), present datum, Mar. 10, 1904; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	39	35	19200	5830	1080	135	57	73	49	70	48
2	49	38	32	14400	5630	1090	130	79	61	48	59	73
3	48	37	30	12900	5400	760	117	69	48	37	65	65
4	41	34	29	e11400	4400	516	105	54	51	26	71	73
5	39	33	32	e10200	3980	350	104	43	68	30	40	80
6	37	31	121	e9160	3810	296	87	55	83	61	28	62
7	39	27	132	e8080	3680	259	96	65	78	49	29	59
8	42	29	88	e7210	3610	260	82	70	44	36	31	63
9	38	27	78	e6700	3480	234	79	61	41	29	27	56
10	39	27	435	e4040	3390	198	82	49	60	19	36	49
11	40	27	1320	e3580	3370	e184	78	49	59	15	38	50
12	40	27	459	e3370	3100	e151	75	50	58	37	46	43
13	38	25	406	e3180	2910	128	75	55	83	45	43	34
14	39	25	289	e3070	2730	133	81	33	83	23	51	37
15	38	24	229	e2880	2630	163	99	31	73	21	54	45
16	38	25	188	e2730	2570	145	102	54	49	23	51	51
17	37	29	163	2630	2540	219	89	52	46	39	53	52
18	38	27	146	2560	2500	230	72	59	35	32	63	53
19	40	27	132	2460	2080	147	105	47	38	36	64	56
20	44	25	124	2430	1900	124	117	30	35	45	67	69
21	53	27	119	2200	1080	119	113	40	41	50	62	78
22	54	91	151	e3640	652	145	98	48	65	52	44	78
23	54	116	158	e11100	556	133	95	74	53	45	57	77
24	53	141	296	6040	445	131	91	92	56	52	56	79
25	53	134	234	16800	337	127	88	79	42	63	50	77
26	56	127	214	18400	313	132	72	73	38	45	48	77
27	61	93	729	7750	302	122	66	79	63	58	80	72
28	54	60	1130	5690	590	119	84	87	52	66	62	69
29	54	42	764	5990	---	118	66	80	64	67	44	71
30	46	37	5010	6530	---	122	64	76	63	74	36	69
31	41	---	9780	6160	---	123	---	48	---	80	43	---
TOTAL	1431	1451	23053	222480	73815	8058	2747	1838	1703	1352	1568	1865
MEAN	46.2	48.4	744	7177	2636	260	91.6	59.3	56.8	43.6	50.6	62.2
MAX	88	141	9780	19200	5830	1090	135	92	83	80	80	80
MIN	37	24	29	2200	302	118	64	30	35	15	27	34
AC-FT	2840	2880	45730	441300	146400	15980	5450	3650	3380	2680	3110	3700

e Estimated.

11452500 CACHE CREEK AT YOLO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.8	61.4	435	1414	1913	1481	867	195	59.6	25.7	11.1	6.54
MAX	335	1593	5644	7446	9262	10930	6353	1655	784	421	189	82.1
(WY)	1963	1984	1984	1914	1958	1983	1958	1904	1906	1907	1907	1996
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1904	1906	1906	1920	1920	1920	1924	1919	1913	1912	1910	1903

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1903 - 1997	
ANNUAL TOTAL	339075		341361			
ANNUAL MEAN	926		935		532	
HIGHEST ANNUAL MEAN					2449	1983
LOWEST ANNUAL MEAN					.000	1977
HIGHEST DAILY MEAN	11400	Feb 5	19200	Jan 1	29300	Feb 25 1958
LOWEST DAILY MEAN	23	Jul 14	15	Jul 11	.00	Aug 7 1903
ANNUAL SEVEN-DAY MINIMUM	26	Nov 10	26	Nov 10	.00	Aug 7 1903
INSTANTANEOUS PEAK FLOW			28700	Jan 1	41400	Feb 25 1958
INSTANTANEOUS PEAK STAGE			80.91	Jan 1	86.40	Mar 10 1904
ANNUAL RUNOFF (AC-FT)	672600		677100		385400	
10 PERCENT EXCEEDS	4040		3130		1370	
50 PERCENT EXCEEDS	82		69		.90	
90 PERCENT EXCEEDS	34		33		.00	

11453000 YOLO BYPASS NEAR WOODLAND, CA

LOCATION.--Lat 38°40'40", long 121°38'35", unsurveyed, Yolo County, Hydrologic Unit 18020109, on left bank 300 ft upstream from Sacramento and Woodland Railroad Bridge, 6 mi upstream from Sacramento Bypass, 6 mi downstream from Fremont Weir, and 7 mi east of Woodland.

PERIOD OF RECORD.--October 1939 to current year (since October 1977, high-flow records only). Monthly discharge only for some periods, published in WSP 1315-A.
SEDIMENT DATA: Water years 1957-61, 1980.

REVISED RECORDS.--WDR CA-96-4: 1995(M).

GAGE.--Water-stage recorder. Datum of gage is 3.41 ft below sea level. Prior to Dec. 17, 1941, nonrecording gage, and Dec. 18-31, 1941, water-stage recorder, at datum 0.73 ft higher. Prior to Sept. 30, 1977, a supplementary water-stage recorder 6 mi downstream at different datum recorded low flow.

REMARKS.--Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont Weir. Beginning October 1977, only flows above 1,000 ft^3/s are computed. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 374,000 ft^3/s, Feb. 20, 1986, gage height, 34.87 ft; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 357,000 ft^3/s, Jan. 2, gage height, 34.84 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	143000	87900	1060	---	---	---	---	---	---
2	---	---	---	e264000	76800	1590	---	---	---	---	---	---
3	---	---	---	e299000	66700	1980	---	---	---	---	---	---
4	---	---	---	298000	56800	1670	---	---	---	---	---	---
5	---	---	---	231000	48100	1210	---	---	---	---	---	---
6	---	---	---	170000	40600	---	---	---	---	---	---	---
7	---	---	---	160000	35400	---	---	---	---	---	---	---
8	---	---	---	149000	30700	---	---	---	---	---	---	---
9	---	---	---	124000	26600	---	---	---	---	---	---	---
10	---	---	---	101000	22900	---	---	---	---	---	---	---
11	---	---	---	86500	18700	---	---	---	---	---	---	---
12	---	---	1540	70400	13000	---	---	---	---	---	---	---
13	---	---	3460	59500	7430	---	---	---	---	---	---	---
14	---	---	25300	49300	5390	---	---	---	---	---	---	---
15	---	---	30500	43700	4840	---	---	---	---	---	---	---
16	---	---	26200	39200	4490	---	---	---	---	---	---	---
17	---	---	20100	35200	4300	---	---	---	---	---	---	---
18	---	---	10800	31200	4140	---	---	---	---	---	---	---
19	---	---	5140	28100	3940	---	---	---	---	---	---	---
20	---	---	2470	24600	3740	---	---	---	---	---	---	---
21	---	---	1390	21500	3330	---	---	---	---	---	---	---
22	---	---	1280	21400	2750	---	---	---	---	---	---	---
23	---	---	1110	57800	2310	---	---	---	---	---	---	---
24	---	---	---	71200	1890	---	---	---	---	---	---	---
25	---	---	---	85100	1670	---	---	---	---	---	---	---
26	---	---	---	112000	1450	---	---	---	---	---	---	---
27	---	---	---	117000	1280	---	---	---	---	---	---	---
28	---	---	1890	114000	1150	---	---	---	---	---	---	---
29	---	---	24100	115000	---	---	---	---	---	---	---	---
30	---	---	50900	109000	---	---	---	---	---	---	---	---
31	---	---	87100	99400	---	---	---	---	---	---	---	---
TOTAL	---	---	---	3330100	578300	---	---	---	---	---	---	---
MEAN	---	---	---	107400	20650	---	---	---	---	---	---	---
MAX	---	---	---	299000	87900	---	---	---	---	---	---	---
MIN	---	---	---	21400	1150	---	---	---	---	---	---	---
AC-FT	---	---	---	6605000	1147000	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1977, BY WATER YEAR (WY)

MEAN	441	738	5638	13230	11240	3398	3849	430	144	20.7	26.1	51.0
MAX	13420	10890	48790	86470	92890	27910	37310	4546	1420	107	84.9	155
(WY)	1963	1951	1956	1970	1958	1958	1958	1952	1967	1958	1958	1954
MIN	1.01	2.19	.92	2.43	.88	3.55	.083	.55	.53	.000	.000	.63
(WY)	1977	1960	1977	1977	1977	1977	1976	1977	1977	1966	1966	1977

SUMMARY STATISTICS WATER YEARS 1946 - 1977

NNUAL MEAN	3230	
HIGHEST ANNUAL MEAN	13020	1958
LOWEST ANNUAL MEAN	1.53	1977
HIGHEST DAILY MEAN	259000	Dec 25 1964
LOWEST DAILY MEAN	.00	Jul 11 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 19 1963
INSTANTANEOUS PEAK FLOW	265000	Dec 25 1964
INSTANTANEOUS PEAK STAGE	32.48	Dec 25 1964
ANNUAL RUNOFF (AC-FT)	2340000	
10 PERCENT EXCEEDS	3080	
50 PERCENT EXCEEDS	35	
90 PERCENT EXCEEDS	1.9	

e Estimated.

11453120 YOLO BYPASS AT INTERSTATE HIGHWAY 80, NEAR WEST SACRAMENTO, CA

LOCATION.--Lat 38°34'04", long 121°36'51", in SE 1/4 NW 1/4 sec. 2, T.8 N., R.3 E, Yolo County, Hydrologic Unit 18020109, at center of bikepath bridge on I-80, 1.9 mi west of West Capitol Avenue, approximately 2.8 mi west of West Sacramento.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Jan. 7, 1997, to September 1997
CHEMICAL DATA: Jan. 7, 1997, to September 1997.
SEDIMENT DATA: Jan. 7, 1997, to September 1997.

INSTRUMENTATION.--None.

REMARKS.--Instantaneous discharge measurements and water-quality samples were collected simultaneously.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)
JAN										
07...	1400	203000	93	7.2	9.5	768	--	--	8.4	4.1
FEB										
06...	1200	39200	229	8.0	10.5	767	10.0	89	18	11

DATE	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
JAN										
07...	4.5	20	1.2	41	3.5	2.2	<.10	15	70	65
FEB										
06...	14	25	1.6	85	15	7.9	<.10	17	136	139

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
JAN										
07...	.10	<.010	.130	<.015	.30	<.20	.070	<.010	.020	12
FEB										
06...	.18	.010	.290	<.015	.40	<.20	.130	.030	.040	7.0

DATE	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
JAN										
07...	<1.0	1	17	<1.0	<1.0	1.0	<1.0	2.0	26	<1.0
FEB										
06...	<1.0	1	33	<1.0	<1.0	1.0	<1.0	2.0	7.0	<1.0

11453120 YOLO BYPASS AT INTERSTATE HIGHWAY 80, NEAR WEST SACRAMENTO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
JAN									
07...	4.0	<1.0	1.0	<1	<1.0	1.0	<1.0	2.0	1.3
FEB									
06...	9.0	<1.0	2.0	<1	<1.0	1.0	<1.0	2.1	6.3

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
JAN					
07...N	1400	203000	9.5	183	100000
FEB					
06...N	1200	39200	10.5	90	9530

11453900 LAKE BERRYESSA NEAR WINTERS, CA

LOCATION.--Lat 38°30'48", long 122°06'13", in SE 1/4 NW 1/4 sec.29, T.8 N., R.2 W., Napa County, Hydrologic Unit 18020117, near center of Monticello Dam on Putah Creek, 7.4 mi west of Winters.

DRAINAGE AREA.--566 mi^2.

PERIOD OF RECORD.--January 1957 to current year.

REVISED RECORDS.--WSP 1735: 1958-60. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by concrete arch-gravity dam completed November 1956. Usable capacity, 1,592,000 acre-ft between elevations 253.25 ft, invert of outlet valves, and 440 ft crest of glory-hole spillway. Dead storage, 10,340 acre-ft. Water is released down Putah Creek and is diverted into Putah South Canal for irrigation of about 46,000 acres in the lower Sacramento Valley. Total diverted during current year was 216,800 acre-ft, provided by U.S. Bureau of Reclamation. Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours. See schematic diagram of lower Sacramento River basin.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,733,500 acre-ft, Mar. 2, 1983, elevation, 446.67 ft; minimum since irrigation pool first filled, 422,130 acre-ft, Dec. 1, 1992, elevation, 361.73 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,713,200 acre-ft, Jan. 26, elevation, 445.67 ft; minimum, 1,354,400 acre-ft, Sept. 30, elevation, 426.71 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1956)

360	404,550	390	765,730	420	1,236,000
370	511,760	400	911,200	430	1,414,200
380	632,360	410	1,068,100	450	1,799,900

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1411200	1389700	1389500	1640900	1654100	1605800	1600400	1570600	1530400	1481300	1430500	1386800
2	1410500	1389200	1389200	1654900	1647900	1605600	1598800	1569400	1529300	1480000	1428300	1385700
3	1410000	1389200	1389200	1655100	1642600	1605200	1598200	1568900	1528100	1478700	1426700	1384600
4	1408900	1389200	1389500	1651200	1637400	1604600	1597500	1567700	1527000	1477200	1425600	1383500
5	1408300	1388600	1392300	1646700	1633700	1604600	1596500	1566600	1525300	1475600	1423900	1382400
6	1407800	1388300	1393200	1641200	1630200	1604000	1595300	1565400	1524200	1473900	1422300	1381300
7	1407200	1388100	1393500	1637000	1627100	1603400	1594800	1564300	1523000	1472800	1421000	1379700
8	1406500	1387500	1393700	1632500	1624300	1603400	1593800	1563100	1521300	1471100	1419300	1378600
9	1405600	1387500	1398600	1628400	1622400	1602900	1593000	1561400	1520200	1469400	1417700	1377500
10	1405000	1387000	1412900	1625700	1620800	1602900	1591900	1560300	1519100	1467700	1416000	1375900
11	1404500	1386800	1416900	1623000	1619500	1602700	1591300	1559100	1517400	1465500	1414400	1374800
12	1403400	1386400	1421100	1622000	1618100	1602300	1589600	1558000	1515700	1463800	1413300	1373700
13	1402800	1385900	1423400	1621200	1616600	1602300	1589000	1556600	1513400	1462500	1411100	1372100
14	1401700	1385900	1423900	1619700	1615000	1602700	1587800	1555300	1512100	1460500	1410000	1370700
15	1400800	1385500	1424500	1617900	1613900	1602700	1586700	1553800	1510600	1458800	1408300	1369900
16	1400100	1386100	1425200	1617000	1613100	1603600	1585500	1552600	1508900	1457100	1406700	1369000
17	1399500	1386600	1425200	1615600	1612500	1604200	1584400	1550900	1507200	1455100	1405000	1367800
18	1398600	1386300	1425000	1614700	1611600	1605000	1583200	1549800	1505500	1453200	1403900	1366700
19	1397700	1387900	1425000	1613300	1611000	1605200	1582500	1548100	1503800	1451600	1403000	1365400
20	1396800	1388600	1425200	1612500	1610400	1605200	1582100	1546400	1501900	1449900	1401700	1364500
21	1395700	1389300	1428300	1612100	1608900	1605200	1581100	1544600	1499900	1448200	1400600	1363400
22	1395200	1389900	1431400	1659800	1608700	1604800	1580200	1542400	1498200	1446400	1399500	1362400
23	1394600	1390600	1433800	1664900	1608300	1604800	1579200	1541200	1496500	1444900	1398100	1361600
24	1394300	1390800	1435300	1661600	1608100	1604600	1578100	1540100	1494300	1443300	1396800	1360700
25	1393200	1390600	1435500	1697000	1608500	1603800	1577500	1538400	1493100	1441200	1395700	1359300
26	1391500	1390400	1442100	1713200	1608500	1603800	1576300	1537100	1490900	1439900	1394600	1358600
27	1390600	1390100	1450100	1701500	1607500	1603400	1575200	1536100	1489200	1438300	1393500	1357300
28	1389900	1390100	1456400	1709600	1606300	1602700	1574000	1535000	1487300	1436100	1391900	1356400
29	1389900	1389700	1479700	1678800	---	1602300	1572900	1534200	1485300	1434900	1390800	1355300
30	1390600	1389200	1507200	1669400	---	1601300	1571900	1532700	1483000	1434000	1389200	1354400
31	1390300	---	1554500	1661400	---	1600900	---	1531600	---	1431600	1387900	---
MAX	1411200	1390800	1554500	1713200	1654100	1605800	1600400	1570600	1530400	1481300	1430500	1386800
MIN	1389900	1385500	1389200	1612100	1606300	1600900	1571900	1531600	1483000	1431600	1387900	1354400
a	428.69	428.63	437.51	443.04	440.21	439.93	438.42	436.30	433.72	430.95	428.56	426.71
b	-22000	-1100	+165300	+106900	-55100	-5400	-29000	-40300	-48600	-51400	-43700	-33500
c	4707	1563	1382	1245	2770	4341	6414	10404	9879	11047	9319	7707

CAL YR 1996 b +211600
WTR YR 1997 b -57900

a Elevation, in feet, at end of month.
b Change in contents, in acre-feet.
c Evaporation, in acre-feet, provided by U.S. Bureau of Reclamation, not reviewed by U.S. Geological Survey.

11454000 PUTAH CREEK NEAR WINTERS, CA

LOCATION.--Lat 38°30'55", long 122°04'51", in NE 1/4 NE 1/4 sec.28, T.8 N., R.2 W., Yolo County, Hydrologic Unit 18020109, on left bank 1 mi downstream from Cold Canyon, 1.3 mi downstream from Monticello Dam, and 6 mi west of Winters.

DRAINAGE AREA.--574 mi^2.

PERIOD OF RECORD.--July 1930 to current year.
CHEMICAL DATA: Water years 1951-66, 1973-81.
WATER TEMPERATURE: Water years 1966-81.

REVISED RECORDS.--WSP 901: 1937-38(M). WSP 1285: 1932(M), 1935-36(M), 1940(M), 1942-43(M), 1951, 1952(M). WSP 1565: 1957. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 160.75 ft above sea level (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft higher.

REMARKS.--Records good except for estimated record which is rated fair. Flow completely regulated by Lake Berryessa (station 11453900) beginning January 1957. See schematic diagram of lower Sacramento River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft^3/s, Feb. 27, 1940, gage height, 30.5 ft, present datum, from rating curve extended above 30,000 ft^3/s; no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955. Since completion of Monticello Dam in 1957, maximum discharge, 18,700 ft^3/s, Mar. 2, 1983, gage height, 19.55 ft; minimum daily, 6.1 ft^3/s, Dec. 19, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	292	61	62	e1870	5440	550	403	503	543	621	624	451
2	278	73	58	e4960	4750	500	433	510	551	630	621	429
3	267	73	69	e5520	4190	454	414	541	553	623	609	440
4	256	73	69	e4930	3770	446	433	529	524	620	605	448
5	267	76	70	4990	3380	438	480	531	507	616	625	448
6	273	77	70	4440	2900	433	505	548	505	592	612	448
7	288	77	70	3870	2400	427	500	550	504	599	595	468
8	298	77	70	3530	2020	380	501	585	531	622	615	475
9	269	77	e69	3030	1730	306	499	593	553	666	624	466
10	249	111	e68	2420	1500	223	504	567	569	695	604	466
11	258	132	e63	1900	1350	167	549	560	600	691	586	466
12	257	109	e95	1560	1270	159	573	559	631	673	574	449
13	235	79	e95	1370	1200	158	580	570	648	648	584	437
14	233	70	e95	1250	1120	193	590	593	630	660	598	429
15	245	66	e95	1190	1050	221	598	625	644	676	593	424
16	257	65	e95	1120	936	263	585	660	714	695	564	406
17	235	68	e102	1040	873	292	576	658	746	705	550	394
18	212	77	e115	983	826	268	579	674	744	707	545	394
19	206	77	e115	923	795	253	595	728	752	686	572	405
20	205	76	e115	890	767	230	582	744	772	673	529	405
21	204	76	e78	859	740	268	541	743	780	673	505	401
22	210	76	e45	2590	612	303	518	722	745	654	502	401
23	204	76	e45	6550	416	306	505	670	718	654	498	390
24	194	76	e75	6220	194	313	509	627	707	664	462	401
25	182	71	e95	9000	129	339	514	565	706	664	437	419
26	172	50	e72	14100	312	370	542	539	704	643	444	398
27	164	63	e45	12600	645	385	564	527	699	633	480	364
28	148	76	e45	10400	588	373	564	489	675	615	506	345
29	89	76	e45	8670	---	354	532	460	640	590	516	335
30	47	74	e45	7350	---	346	503	466	619	596	516	326
31	47	---	e45	6290	---	356	---	513	---	613	486	---
TOTAL	6741	2308	2295	136415	45903	10074	15771	18149	19214	20097	17181	12528
MEAN	217	76.9	74.0	4400	1639	325	526	585	640	648	554	418
MAX	298	132	115	14100	5440	550	598	744	780	707	625	475
MIN	47	50	45	859	129	158	403	460	504	590	437	326
AC-FT	13370	4580	4550	270600	91050	19980	31280	36000	38110	39860	34080	24850

e Estimated.

11454000 PUTAH CREEK NEAR WINTERS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1956, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.62	96.0	993	1284	1716	976	514	137	42.1	12.5	6.94	5.84
MAX	45.4	807	5110	3957	6468	3506	2729	452	156	63.7	31.7	20.8
(WY)	1951	1951	1956	1952	1938	1938	1941	1941	1942	1941	1941	1941
MIN	.89	3.17	7.16	44.6	66.7	118	40.8	12.3	6.72	2.39	.000	1.47
(WY)	1956	1956	1931	1947	1948	1932	1931	1931	1931	1955	1955	1931

SUMMARY STATISTICS	WATER YEARS 1931 - 1956	
ANNUAL MEAN	477	
HIGHEST ANNUAL MEAN	1387	1941
LOWEST ANNUAL MEAN	48.1	1931
HIGHEST DAILY MEAN	54500	Feb 27 1940
LOWEST DAILY MEAN	.00	Sep 6 1950
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 6 1950
INSTANTANEOUS PEAK FLOW	81000	Feb 27 1940
INSTANTANEOUS PEAK STAGE	30.5	Feb 27 1940
ANNUAL RUNOFF (AC-FT)	345500	
10 PERCENT EXCEEDS	924	
50 PERCENT EXCEEDS	38	
90 PERCENT EXCEEDS	3.0	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	225	89.3	111	528	572	736	629	546	590	623	544	400
MAX	476	263	1625	4406	4550	7791	5023	1018	773	802	681	610
(WY)	1972	1987	1984	1970	1983	1983	1982	1983	1981	1984	1975	1968
MIN	13.3	14.9	11.6	11.6	21.6	40.9	110	155	328	338	298	175
(WY)	1960	1963	1961	1960	1960	1962	1960	1960	1960	1960	1960	1960

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1960 - 1997	
ANNUAL TOTAL	199788		306676			
ANNUAL MEAN	546		840		466	
HIGHEST ANNUAL MEAN					1580	1983
LOWEST ANNUAL MEAN					132	1960
HIGHEST DAILY MEAN	3540	Mar 6	14100	Jan 26	17700	Mar 2 1983
LOWEST DAILY MEAN	27	Feb 17	45	Dec 22	6.1	Dec 19 1967
ANNUAL SEVEN-DAY MINIMUM	43	Feb 11	56	Dec 25	8.3	Nov 7 1963
INSTANTANEOUS PEAK FLOW			14800	Jan 26	18700	Mar 2 1983
INSTANTANEOUS PEAK STAGE			18.40	Jan 26	19.55	Mar 2 1983
ANNUAL RUNOFF (AC-FT)	396300		608300		337500	
10 PERCENT EXCEEDS	1050		1220		709	
50 PERCENT EXCEEDS	461		506		349	
90 PERCENT EXCEEDS	58		76		51	

11454210 PUTAH SOUTH CANAL NEAR WINTERS, CA

LOCATION.--Lat 38°29'534, long 122°00'07", in Rio De Los Putos Grant, T.8 N., R.1 W., Solano County, Hydrologic Unit 18020109, on left bank, 500 ft downstream from diversion headgate structure on Lake Solano, and 2.7 mi southwest of Winters.

PERIOD OF RECORD.--Water years 1994 to current year. Monthly and yearly totals were published during water years 1972-93.

GAGE.--Water-stage recorder. Elevation of gage is 160 ft above sea level, from topographic map.

REMARKS.--Water from canal is diverted for irrigation, municipal, and industrial use. See schematic diagram of lower Sacramento River basin.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum daily discharge, 699 ft^3/s, June 20, 21, 1997; no flow on some days during most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	259	120	66	40	47	45	50	486	341	627	626	425
2	257	111	70	40	50	45	66	520	377	636	626	426
3	269	103	38	47	50	45	63	537	465	635	600	414
4	299	96	.00	43	36	37	60	535	498	626	566	403
5	292	99	87	44	35	30	58	550	519	627	590	395
6	289	104	108	50	45	30	57	536	548	596	598	397
7	276	103	37	36	50	35	58	528	555	561	581	400
8	268	105	100	41	50	40	79	504	562	582	590	400
9	261	101	86	60	57	40	90	534	553	633	595	432
10	253	100	47	53	60	40	83	545	559	645	589	445
11	243	100	45	50	53	40	101	564	572	670	564	466
12	227	104	23	50	51	35	123	532	584	691	555	473
13	219	105	.00	50	49	30	166	530	571	675	578	467
14	220	88	51	50	50	30	177	525	565	631	628	439
15	209	80	73	50	50	30	169	450	562	621	620	397
16	184	80	50	42	50	37	145	235	585	626	621	365
17	171	68	40	35	50	44	124	153	551	594	624	327
18	198	17	32	35	50	45	145	138	530	574	565	329
19	217	.00	35	45	50	43	175	135	552	571	561	330
20	216	42	53	50	50	40	175	137	559	602	604	341
21	189	93	48	50	50	40	175	146	549	589	591	349
22	173	70	60	50	48	40	168	149	568	618	563	341
23	181	60	46	40	45	40	194	165	582	613	524	331
24	197	60	40	35	45	35	263	185	589	589	503	335
25	200	60	15	45	45	30	295	200	559	596	469	383
26	200	60	26	50	41	30	334	228	549	611	471	393
27	200	60	56	44	35	37	361	254	545	604	475	360
28	179	60	50	35	35	40	374	264	575	566	484	311
29	174	60	50	34	40	40	395	310	608	569	499	265
30	147	60	43	37	---	40	445	348	626	586	489	255
31	131	---	40	40	---	40	---	348	---	595	466	---
TOTAL	6798	2369.00	1515.00	1371	1367	1173	5168	11271	16358	18959	17415	11394
MEAN	219	79.0	48.9	44.2	47.1	37.8	172	364	545	612	562	380
MAX	299	120	108	60	60	45	445	564	626	691	628	473
MIN	131	.00	.00	34	35	30	50	135	341	561	466	255
AC-FT	13480	4700	3010	2720	2710	2330	10250	22360	32450	37610	34540	22600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	208	64.8	42.1	39.3	45.9	40.1	170	323	532	596	568	395
MAX	219	79.0	48.9	44.2	47.1	42.4	172	364	545	612	575	410
(WY)	1996	1996	1996	1996	1996	1995	1996	1996	1996	1996	1995	1995
MIN	198	50.6	35.3	34.5	44.6	37.8	168	281	518	580	562	380
(WY)	1995	1995	1995	1995	1995	1996	1995	1995	1995	1995	1996	1996

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	91716.00		95158.00			
ANNUAL MEAN	251		260		253	
HIGHEST ANNUAL MEAN					260	1996
LOWEST ANNUAL MEAN					246	1995
HIGHEST DAILY MEAN	652	Jul 15	691	Jul 12	691	Jul 12 1996
LOWEST DAILY MEAN	.00	Jan 10	.00	Nov 19	.00	Nov 23 1994
ANNUAL SEVEN-DAY MINIMUM	23	Jan 4	35	Mar 10	23	Dec 28 1994
ANNUAL RUNOFF (AC-FT)	181900		188700		183300	
10 PERCENT EXCEEDS	582		590		585	
50 PERCENT EXCEEDS	190		175		177	
90 PERCENT EXCEEDS	35		40		35	

11454210 PUTAH SOUTH CANAL NEAR WINTERS, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	50	38	13	73	70	335	428	475	566	569	398
2	229	80	.00	27	66	70	361	435	478	572	559	395
3	232	60	52	40	60	70	360	466	490	561	546	390
4	235	60	88	47	60	70	371	456	452	555	559	405
5	228	60	46	50	53	70	400	460	437	551	577	410
6	225	60	57	50	50	75	405	464	421	533	560	410
7	246	60	65	52	50	80	418	477	427	538	538	429
8	244	60	65	55	50	93	430	517	464	570	567	438
9	233	60	65	55	50	100	418	520	488	612	566	430
10	234	78	38	52	50	100	431	498	499	620	541	418
11	242	85	26	50	50	100	478	476	531	635	526	420
12	215	81	65	50	50	110	501	485	566	621	512	409
13	200	75	65	50	50	126	505	498	588	590	529	401
14	204	75	65	46	50	151	512	515	564	597	557	380
15	223	75	65	45	50	167	523	554	589	605	534	386
16	227	75	65	45	50	205	507	586	641	631	510	369
17	205	75	65	45	50	224	496	586	661	645	488	355
18	188	47	65	49	50	220	505	603	673	635	480	366
19	182	.00	65	50	53	213	513	636	679	617	501	370
20	176	48	65	50	58	205	491	653	699	614	481	363
21	182	115	65	48	66	230	472	664	699	611	455	364
22	192	29	54	28	70	247	440	639	666	586	449	361
23	184	82	50	25	70	246	432	600	649	604	426	349
24	184	65	50	12	66	259	443	551	636	605	394	370
25	167	43	50	.00	62	283	440	504	638	593	373	369
26	149	.00	50	23	.00	320	466	470	638	581	408	351
27	148	88	50	45	65	322	464	449	636	556	439	314
28	136	79	43	50	70	311	483	412	618	539	460	289
29	98	70	30	50	---	301	460	387	576	519	469	299
30	50	63	27	50	---	295	431	399	555	540	469	296
31	25	---	40	50	---	299	---	435	---	549	432	---
TOTAL	5929	1898.00	1634.00	1302.00	1542.00	5632	13491	15823	17133	18151	15474	11304
MEAN	191	63.3	52.7	42.0	55.1	182	450	510	571	586	499	377
MAX	246	115	88	55	73	322	523	664	699	645	577	438
MIN	25	.00	.00	.00	.00	70	335	387	421	519	373	289
AC-FT	11760	3760	3240	2580	3060	11170	26760	31380	33980	36000	30690	22420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	203	64.3	45.6	40.2	48.9	87.3	263	385	545	592	545	389
MAX	219	79.0	52.7	44.2	55.1	182	450	510	571	612	575	410
(WY)	1996	1996	1997	1996	1997	1997	1997	1997	1997	1996	1995	1995
MIN	191	50.6	35.3	34.5	44.6	37.8	168	281	518	580	499	377
(WY)	1997	1995	1995	1995	1995	1996	1995	1995	1995	1995	1997	1997

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1995 - 1997	
ANNUAL TOTAL	93937.00		109313.00			
ANNUAL MEAN	257		299		268	
HIGHEST ANNUAL MEAN					299	1997
LOWEST ANNUAL MEAN					246	1995
HIGHEST DAILY MEAN	691	Jul 12	699	Jun 20	699	Jun 20 1997
LOWEST DAILY MEAN	.00	Nov 19	.00	Nov 19	.00	Nov 23 1994
ANNUAL SEVEN-DAY MINIMUM	35	Mar 10	26	Jan 21	23	Dec 28 1994
ANNUAL RUNOFF (AC-FT)	186300		216800		194500	
10 PERCENT EXCEEDS	590		588		586	
50 PERCENT EXCEEDS	169		311		205	
90 PERCENT EXCEEDS	40		50		40	

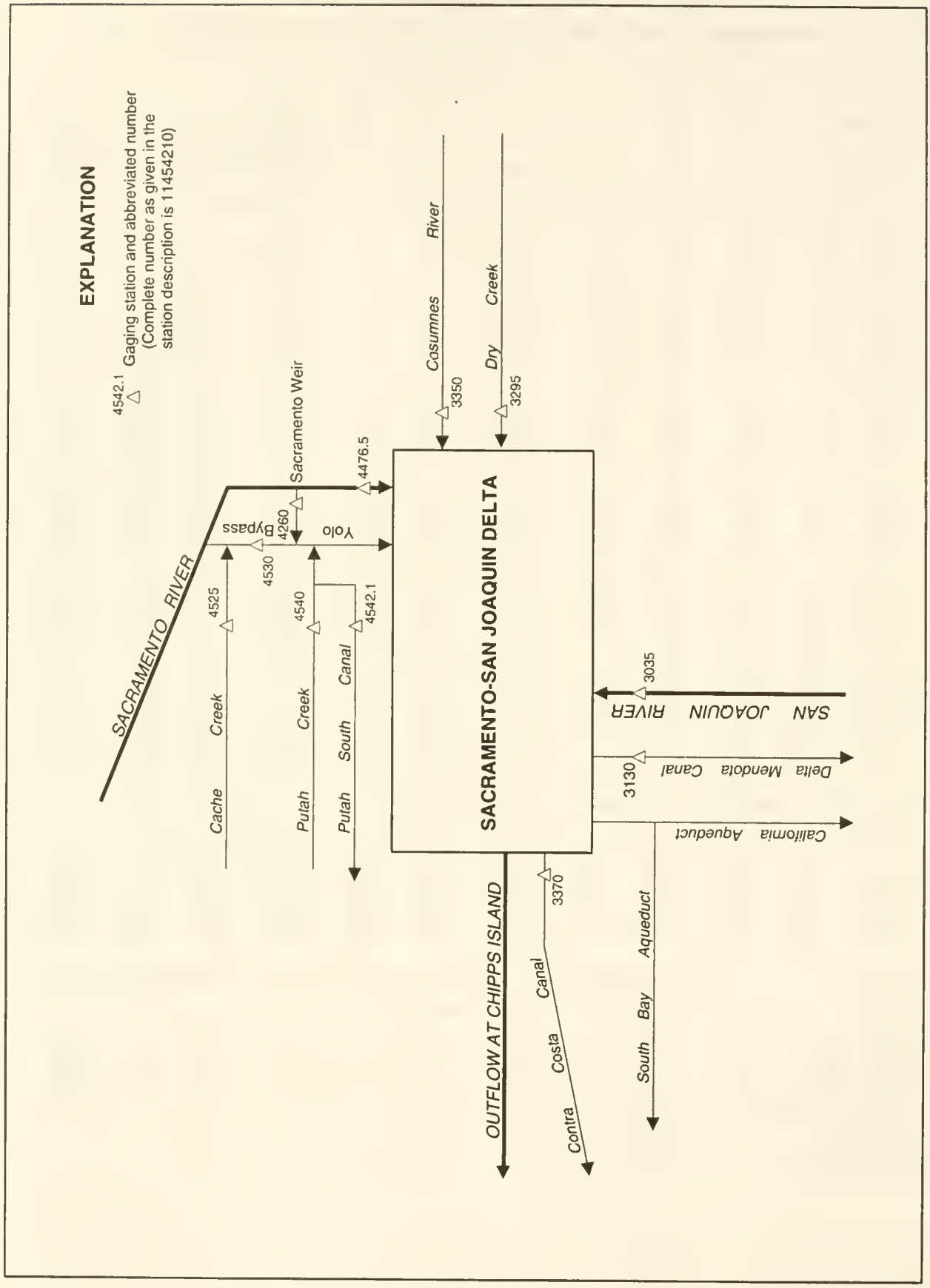

Figure 35. Principal inflows and diversions, Sacramento–San Joaquin Delta.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations area usable in low-or flood-flow analyses, depending on the type of data collected.

Discharge measurements made at miscellaneous sites during water year 1997

Station no.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Sacramento River Basin				
11341900	Dog Creek at Delta, CA	Lat 40°56'17", long 122°25'13", in SE 1/4 NE 1/4 sec.34, T.36 N., R.5 W., Shasta County, Hydrologic Unit 18020005, 0.1 mi upstream from mouth, 0.5 mi southwest of Delta, and 25 mi north of Redding	17.3	a1975, 1976-84, 1986-97	10-01-96	b6.11
					12-11-96	488
					01-06-97	200
					02-10-97	69.5
					03-06-97	33.8
					08-05-97	b4.41

a Published as a miscellaneous measurement.
b Base flow

Water-quality partial-record stations are particular sites where chemical-quality, biological, and (or) sediment data are collected systematically over a period of years for use in hydrologic analyses. These data are collected usually less than quarterly. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

SACRAMENTO RIVER BASIN

403633122264301 SACRAMENTO RIVER BELOW KESWICK DAM, CA

LOCATION.--Lat 40°36'33", long 122°26'43", in NE 1/4 SW 1/4 sec. 21, T.32 N., R.5 W, Shasta County, Hydrologic Unit 18020005, on right bank, 0.35 mi downstream of Keswick Dam, 1.2 mi southeast of Keswick.

DRAINAGE AREA.--Not to be determined.

PERIOD OF RECORD.--October 1996 to September 1997.

INSTRUMENTATION.-- None.

REMARKS.--Discharge data provided by Department of Water Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV												
21...	1200	5320	108	7.4	13.0	744	8.7	84	49	3.9	1.6	<.10
JAN												
02...	1900	52900	111	7.6	10.0	742	13.2	120	19	--	--	--
MAY												
28...	1730	10000	99	7.7	9.5	749	10.6	95	--	--	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
NOV											
21...	79	.010	.100	.110	<.20	<.20	.020	<.010	.020	1.2	.10
JAN											
02...	--	<.010	.090	<.015	<.20	<.20	<.010	<.010	<.010	2.4	2.4
MAY											
28...	--	<.010	.079	<.015	<.20	.21	<.010	<.010	.016	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV					
21...	1200	5320	13.0	3	43
DEC					
11...	1730	35600	--	3	288
JAN					
02...	1900	52900	10.0	11	1570
MAY					
28...	1730	10000	9.5	8	216

SACRAMENTO RIVER BASIN

403741122275901 WHISKEYTOWN LAKE AT SPRING CREEK POWERPLANT, NEAR KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in SE 1/4 NE 1/4 sec. 18, T.32 N., R.5 W, Shasta County, Hydrologic Unit 18020005, at Spring Creek Power Plant site, near Keswick.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--December 1996 to September 1997.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
DEC											
11...	1330	74	7.6	10.5	735	10.2	95	2.1	1.2	<.10	49
MAY											
29...	1410	77	7.8	--	--	--	--	1.8	1.1	<.10	43

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
DEC										
11...	.013	<.050	.021	<.20	<.20	<.010	<.010	<.010	1.3	--
MAY										
29...	<.010	.050	<.015	<.20	<.20	<.010	<.010	<.010	1.4	.10

SACRAMENTO RIVER BASIN

403746122281201 SPRING CREEK BELOW SPRING CREEK DEBRIS DAM, NEAR KESWICK, CA

LOCATION.--Lat 40°37'46", long 122°28'12", in NE 1/4 SE 1/4 sec. 18, T.32 N., R.5 W, Shasta County, Hydrologic Unit 18020005, at base of spillway, 0.25 mi west of Spring Creek Powerplant, near Keswick.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--December 1996 to September 1997.

INSTRUMENTATION.--None.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
DEC											
11...	1400	129	4.4	11.5	735	10.0	95	57	.50	<.10	94
JAN											
02...	1730	237	3.7	13.0	742	--	--	15	.14	<.10	112
MAY											
28...	1100	495	4.0	20.5	747	8.7	99	230	.57	<.10	364

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
DEC										
11...	.011	.060	.032	<.20	<.20	<.010	<.010	<.010	1.2	--
JAN										
02...	<.010	.087	.048	<.20	<.20	<.010	<.010	<.010	.90	.20
MAY										
28...	<.010	<.050	.069	<.20	<.20	<.010	<.010	<.010	.40	--

SACRAMENTO RIVER BASIN

403750122272301 KESWICK RESERVOIR AT SPRING CREEK ARM, NEAR KESWICK, CA

LOCATION.--Lat 40°37'50", long 122°27'23", in SE 1/4 SE 1/4 sec. 17, T.32 N., R.5 W, Shasta County, Hydrologic Unit 18020005, 0.8 mi downstream of Spring Creek Dam, 4.6 mi southwest of Summit City.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1996 to September 1997.

INSTRUMENTATION.-- None.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV											
20...	1200	92	7.3	11.5	746	9.7	91	36	4.7	1.2	<.10
MAY											
28...	1400	81	7.5	11.0	749	9.6	88	--	2.8	1.1	<.10

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
NOV											
20...	48	<.010	<.050	.020	<.20	<.20	<.010	<.010	<.010	1.1	.30
MAY											
28...	54	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	--	--

SACRAMENTO RIVER BASIN

403824122264601 FLAT CREEK AT KESWICK, CA

LOCATION.--Lat 40°38'24", long 122°26'46", in SW 1/4 SW 1/4 sec. 9, T.32 N., R.5 N, Shasta County, Hydrologic Unit 18020005, on right bank 1.25 mi upstream of Spring Creek Powerplant, at confluence of Flat Creek and Sacramento River.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--December 1996 to September 1997.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
DEC											
11...	1530	40	--	--	--	--	--	69	9.2	.49	<.10
MAY											
29...	1600	175	6.7	25.5	748	6.4	80	--	55	1.5	.11

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
DEC											
11...	34	.014	.063	<.015	<.20	<.20	<.010	<.010	<.010	1.2	--
MAY											
29...	120	<.010	<.050	<.015	<.20	<.20	<.010	<.010	<.010	1.0	<.10

SACRAMENTO RIVER BASIN

404259122252501 SACRAMENTO RIVER BELOW SHASTA DAM, CA

LOCATION.--Lat 40°42'59", long 122°25'25", in SE 1/4 SW 1/4 sec. 15, T.33 N., R.5 N, Shasta County, Hydrologic Unit 18020005, on right bank 0.28 mi downstream of Shasta Dam and 2.3 mi northwest of Summit City.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1996 to September 1997.

INSTRUMENTATION.-- None.

REMARKS.--Discharge release data provided by Bureau of Reclamation.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	ALKA-LINITY WAT.DIS GRAN T. FIELD CACO3 (MG/L) (29802)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV												
19...	1030	3880	120	7.4	13.0	738	7.6	75	55	3.1	1.8	<.10
MAY												
29...	1030	15200	107	7.7	8.5	746	12.4	108	--	3.4	1.6	<.10

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
NOV											
19...	80	<.010	.100	<.015	<.20	<.20	.030	.010	.020	.90	.20
MAY											
29...	69	<.010	.094	<.015	<.20	<.20	<.010	<.010	.025	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV					
19...	1030	3880	13.0	7	73
DEC					
12...	1030	29400	12.5	2	159
MAY					
29...	1030	15200	8.5	7	287

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☆ U.S. GOVERNMENT PRINTING OFFICE:1998-646-070/80005

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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